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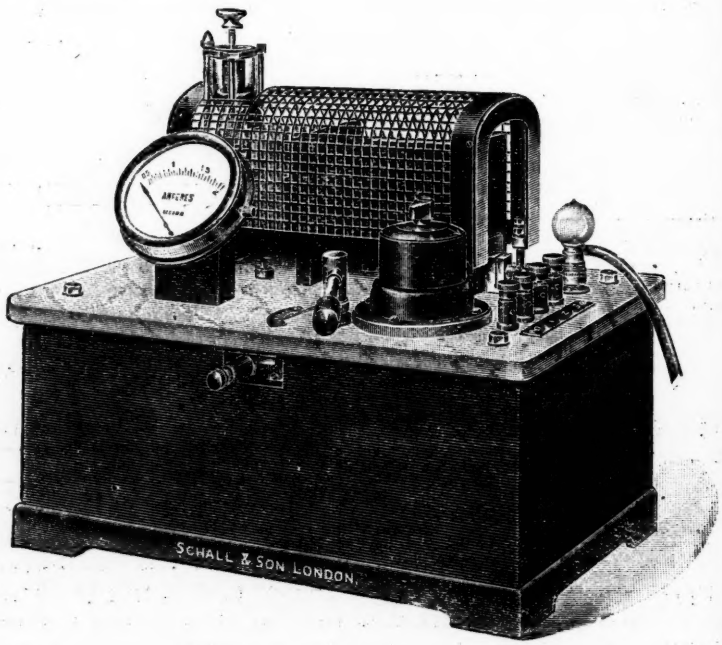

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ATROCITIES OF WAR.*

BY

Sir JOHN BLAND-SUTTON, F.R.C.S.Eng.,

SURGEON TO THE MIDDLESEX HOSPITAL.

Vae victis! It is difficult to conceive a shorter sentence that contains so much meaning. Woe to the vanquished! The modern term, Atrocities, or Horrors, has an alarming signification in Christian countries where men are exhorted to love their enemies!

The Old Testament abounds in descriptions of atrocities practised on prisoners of war. We are all familiar with one striking example in which the first King of Israel, Saul, showed mildness to the vanquished Amalekites, and the dramatic reproof he sustained when the prophet Samuel hewed Agag, King of the Amalekites, in pieces for sacrificial purposes.

When the mighty captain Joab took Rabbah, the metropolis of the Ammonites, he wisely sent for David to decide the fate of the garrison and be responsible for the atrocities. After Joab had brought forth the spoil of the city in great abundance, the inhabitants were collected, and he put them under saws, and under harrows of iron, and under axes of iron, and made them pass through the brick-kiln (2 Sam. xii, 31). This was done not only to the people of Rabbah, but also to the inhabitants of other Ammonite cities. This method of treating prisoners of war was not peculiar to the Israelites. The slaughter and torture of the vanquished regularly followed the capture of strongholds in those days. The date of some of these conquests and wars can now be fixed. After the discovery of the remarkable slabs, cylinders, and tablets of Assyria, enthusiastic and clever men set themselves the task of deciphering the peculiar cuneiform inscriptions so common on these monuments, and from them much has been learned regarding military, social, and religious matters connected with the powerful nations surrounding the Kingdom of Israel. Moreover, the evidence now available shows that the severe punishment inflicted by David on the Ammonites was the common sequel to the capture and sack of a citadel. Modern civilization has taught men to respect brave enemies, but this was not practised during the pre-eminence of Babylonia and Assyria.

Fig. 1.—Bringing in the heads of the slain. Assyrian bas-relief. British Museum.

The greatest and most powerful monarch of Assyria was Ashur-nasir-pal (B.C. 885–860). The chief source of information concerning his reign is the long cuneiform inscription on slabs which formed the pavement of the entrance to the temple of "Ninib" at Nimrûd; and on the colossal human-headed bulls, and lions, excavated by Layard and now exhibited in the British Museum.

Ashur-nasir-pal had the walls of his palace, and the temple he built in the city of Calah (Nimrûd), covered with records of his conquests, and strings of titles descriptive of his greatness and power. It is the description of the atrocities inflicted on the people conquered by Ashur-nasir-pal that concerns us most. The records of the eighteen years of his reign show that there was scarcely a year in which he was not at war. The way in which prisoners were treated is briefly set out in regard to the fortified city of Tela. After its capture, 3,000 fighting men were slain; their goods, oxen, and sheep carried away, and many captives burned with fire. Many soldiers were taken alive. The hands and feet of some were cut off; of others the nose, ears and fingers. The eyes of many men were put out. One heap was made of the living, and another of heads. The heads of some were bound to vines round about the city. The young and maidens were burned in the fire, and the city was annihilated.

As an example of Ashur-nasir-pal's vengeance the following is a good example:

The city of Suru revolted and killed the governor. The King collected chariots and hosts and took the city. He built a pillar near the city gate and flayed all the chief men and covered the pillar with their skins. To be flayed alive is a horrible form of punishment, and it is difficult to conceive the kind of crime that fits it. Boys and men learn from Ovid that Marsyas, the Phrygian flute-player, was flayed alive for presumption. Although he repented because he did not think that playing on Minerva's reed deserved such vengeance:

> Apollo from his body stript his hide.
> His body was one wound, blood every way
> Streames from all parts: his sinews naked lay
> His bare veines pant: his heart you might behold. (*Sandys.*)

A few years ago I interested myself in African drums, and ascertained that some fetish drums were covered with human skin. I got no proof that the skin was removed from living bodies.

Recently, in the Natural History Museum at Nantes, I had an opportunity of looking at the tanned skin of a soldier, killed by the Vendéans in 1793; he requested his comrades to have a drum covered with his skin, so that he might continue to be a terror to those "brigands de royalistes" after his death.

In the Nineveh Gallery of the British Museum there are bas-reliefs representing an assault on a fortified city by Assyrian soldiers. One of the slabs shows how badly the vanquished suffered at the hands of their conquerors. The heads of the prisoners, and probably of the slain, were cut off and presented to the King, much in the same way that big game hunters collect the heads of slaughtered beasts as evidence of their skill and courage.

The heads of the slain represented on the bas-relief (Fig. 1) have marked Jewish features (Museum Guide). It is probable that the atrocities perpetrated by the Hebrews on the Ammonites were no worse than the punishments and atrocities inflicted on them when in turn they did not happen to be victorious. Saul committed suicide after the disastrous defeat at Gilboa for fear the enemy should abuse him. The Philistines cut off his head and fastened his body and the bodies of his three sons to the walls of Beth-shan.

In those ancient times a king who went to war was glorified in the eyes of his subjects by the number of the enemy slain in battle. This is well expressed in the familiar couplet: "Saul has slain his thousands and David his ten thousands." The history of the ancient civilizations of Palestine, Babylonia, and Assyria and the neighbouring countries makes it certain that atrocities did not end with the capture of a city. The inhabitants of the conquered countries suffered cruelly, and there are good reasons for the opinion that many horrible atrocities, perpetrated on captive Jews, were intensified by hatred of the Jewish religion, which differed so materially from the idolatrous worship of Ashur and Ishtar in Nineveh. Every country has its own religion, and the Jews clung to their religion with remarkable tenacity.

Antiochus IV (Epiphanes), King of Syria, endeavoured (B.C. 150) to suppress Judaism, and established the worship

* Inaugural address to the Midland Medical Society, Birmingham, October 16th, 1919.

of Greek gods at Jerusalem. Women were terribly punished for allowing their boys to be circumcised. The most horrible form of mutilation on record is that inflicted on seven brethren in the presence of their mother, in one day, because they refused to eat pork (2 Macc. vii). The tyranny of Antiochus IV led to the Maccabean rebellion.

At the period when Ashur-nasir-pal inflicted such ferocious punishments on the people he conquered by force of arms, Assyria had reached not only a state of great prosperity but a high civilization. A neighbouring country, Egypt, had not only attained a higher civilization but practised similar atrocities on a grander scale; there are pictorial records of the atrocities which may be read and studied by any intelligent tourist who makes a journey to Luxor, on the Nile. Ramses III was a king as vain of his conquests as Ashur-nasir-pal. He reigned in Egypt about 1100 B.C., and conquered the Libyans in two great battles. His reign was afterwards a period of peace and quiet, and Ramses became a great builder of temples and worshipped especially the Theban Amon. He built a large temple on the western bank of the Nile at Thebes. The place is now known as Medinêt Habu. The temple, about 500 feet long and 160 feet wide, stands in a conspicuous position about half a mile from the Memnon Colossi. The sculptures, wall-pictures, and hieroglyphics record the King's campaigns against the Libyans, the Syrians, and the negroes. They are of importance for the history of Egypt and Mediterranean lands. The figures in the pictures, cut into or painted on the walls, are almost life-size, except that of Pharaoh, who is represented as a giant fighting and trampling on his foes. The scenes of the mutilation of prisoners show the methods. On one wall the captors are engaged cutting off the hands and feet of the captives. The heaps of amputated hands and feet are depicted, and scribes record the numbers, like clerks checking goods in a merchant's office (Fig. 2). The severed limbs numbered 12,535.

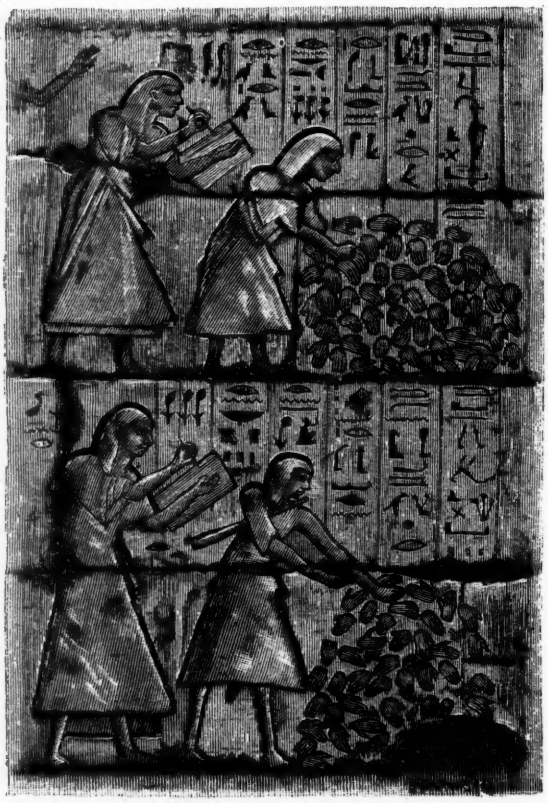

FIG. 2.—Scene from a wall of the temple at Medinêt Habu, showing scribes recording the number of hands cut from prisoners of war. (From a photograph.)

This method of removing hands and feet was practised in the Sudan as late as 1890. Father Ohrwalder was a captive in the Mahdi's camp ten years (1882–1892); he wrote an account of his captivity, and the brutality practised at Omdurman. Thieves were punished by removal of the right hand and the left foot. The loss of the hand hampers him in thieving, and the removal of the foot hinders him in running away. The amputations were performed by a butcher. A cord was tied round the forearm just above the wrist, and the hand was dexterously detached with a knife. The stump was then dipped in boiling oil or fat, and then smeared with a mixture of tar and grease. In about two months the wound healed. The foot was removed at the ankle in a similar way. Some died from the shock of the amputation, and a few later from secondary complications. Ohrwalder mentions that many recovered, for there was an enormous number of cripples in Omdurman.

In 1898 I had an opportunity of examining a spy at Luxor who had been punished in this way by the Khalifa. He was released when Kitchener's troops occupied Dongola. The cut surfaces had slowly granulated. The styloid processes of the radius and ulna and the malleoli were covered with thin scar tissue.

Thieves seem to have been treated with more consideration than prisoners of war. In the case of a thief, when his hand or foot was cut off the bleeding was checked by the ancient plan of dipping the stump in boiling oil. This privilege did not apply to captives taken in battle, and many bled to death.

In some parts of Africa (Uganda) mutilation is dreaded because the people believe that in the next world their ghosts will be similarly maimed. A man whose hand is cut off believes that his ghost will bear the stigma of a thief. There is no evidence that the ancient Egyptians believed in such fancies. Though religious they were practical, and often removed the genital organs of prisoners of war, for an obvious reason. On one of the walls at Medinêt Habu soldiers are represented in the performance of this mutilation. The proceedings are drawn with the same realism as operations in a book on operative surgery. The victim is held down; the knees bent and the legs drawn aside by assistants, whilst the operator standing between the limbs removes the external genitals with a knife. He makes a curvilinear incision on each side and then sweeps off penis, scrotum, and testicles and casts them in a heap as in the case of hands and feet. Prisoners tied in line, like cattle arranged for slaughter, await their turn. There was method in treating prisoners of war in this way. Many died. The survivors, *minus* hand or foot, were useless as soldiers, and, without genitals, useless for propagation.

The hands and feet and other severed parts, after being counted and recorded, were dedicated to Amon, or to Khons, in the temple, from the same motives that we hang captured flags and banners in conspicuous places in our cathedrals.

The pictures in this temple interested me in 1898, because a similar act had been performed within a few hundred miles of this temple as recently as 1896, when the Abyssinians inflicted a crushing defeat on the Italian forces in the hills north of Adowa (Adua). After the battle a number of prisoners were treated in the same way as the soldiers of Ramses III treated the unfortunate Libyan captives some three thousand years previously.

The effects of the atrocities on the Italian soldiers were carefully described by Dr. T. Fiaschi, surgeon to the Sydney Hospital, New South Wales. Fiaschi went to the assistance of his countrymen at the hospital of Asmara, Abyssinia. The Abyssinian soldiers cut off with swords the right hand and left foot of the captured men. Many bled to death because the stumps were not allowed to be dipped "in boiling melted butter." Some of the native Mohammedans who were thus mutilated in despair drowned themselves in a water-hole. Some bandaged the stumps with strips of clothing, and were eventually rescued by their wives. Later, when hospital help was available, the condition of many sufferers was improved by secondary amputation performed by Italian surgeons. Fiaschi found that the forearm stump as a rule healed naturally. The leg stump required reamputation, save in a few instances where the soldiers, in cutting off the foot, had hacked off the malleoli. He estimates that of 1,500 black soldiers mutilated at Adowa 500 survived; the remaining 1,000 died from haemorrhage, starvation, and suffering. Removal of the genitals was not so freely practised on the living as removal of hands and feet.

Many of the sufferers among the white soldiers were privates or petty officers. This kind of mutilation was done mainly by the Gallas—Abyssinian irregular mounted horsemen, brave men but notorious for cruelty in war.

Fiaschi's descriptions of the methods employed in mutilating the prisoners of war, wounded and unwounded, black and white, corresponds with those depicted on the walls of the temple at Medinêt Habu. The object of the mutilation by the Gallas was to take the parts removed to their women. The Gallas rode about with these disgusting trophies transfixed on their spears. The greater number of the dead were evirated. It is well known that men can survive the complete removal of the external genitalia even when it is carried out in the rude fashion depicted on the walls of the temple at Medinêt Habu.

A religious sect in Russia known as Skopski practise complete removal of the external genitals of the male as an initiation ceremony. The act is known as the Royal Seal. This extraordinary sect was founded by Andrew Selivanof (died 1832), and the initiation ceremony of removing the external organs of generation is founded on the famous argument on divorce. "For there are some eunuchs which were so born from their mother's womb; and there are some eunuchs which were made eunuchs of men; and there be eunuchs which have made themselves eunuchs for the Kingdom of Heaven's sake" (Matt. xix, 12). That the Skopski remove the male genitalia completely is proved by a specimen in the Museum of the Royal College of Surgeons, showing the effect on the prostate of this curious religious act. Religious enthusiasts in England occasionally endeavour to make themselves eunuchs, but attempts at self-castration are rarely successful.

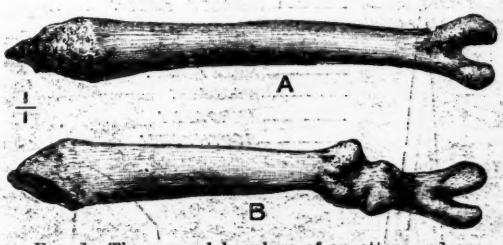

FIG. 3.—The normal baculum of an otter, and one that has been broken and healed. (Museum, Royal College of Surgeons.)

MUTILATION OF THE CORPSE.

To murder a person and dismember the dead body from sheer hate is a practice repugnant to most minds, but it is widespread and a common mode of expressing contempt and hatred. The treatment of Guy Fawkes and his co-conspirators shows that the State endorsed the mutilation of the bodies of traitors. After these men were hanged, their heads were cut off, the bodies drawn and quartered, and the heads set up on the gates of the city—for the rooks and crows.

Tyburn gallows stoodsnear the Marble Arch, and I have often looked at the rook that perch and build in the tall trees in Connaught Square hard by the tablet that marks the spot where the gallows stood, and wondered if they are descended from the rooks that may have pecked out the eyes of Perkin Warbeck, Jack Sheppard, Jonathan Wild, and the like; or sniffed the skeletons of Cromwell and Ireton when they were exhumed and hung on the gibbets.

Whilst expressing horror at atrocities committed by Turks, infidels, and savages on the quick and the dead, it is worth mention that early in the fifteenth century the Welsh under Glendower committed atrocities on English soldiers. Shakespeare represents the Earl of Westmoreland informing Henry IV of these facts in unmistakable terms:

> There came
> A post from Wales loaden with heavy news;
> Whose worst was, that the noble Mortimer,
> Leading the men of Hereford to fight
> Against the irregular and wild Glendower,
> Was by the rude hands of the Welshman taken,
> And a thousand of his people butchered;
> Upon whose dead corpse there was such misuse
> Such beastly shameless transformation,
> By those Welshwomen done, as may not be
> Without much shame, retold or spoken of.

Even as late as the Wars of the Roses it was a common saying—

> Priests pray for enemies, princes kill.

Certainly they cut off the heads of important men slain in battle and exhibited them. The Earl of Salisbury revolted against Henry IV, and lost his life. The gory head of the earl was welcomed into London by a procession of abbots and bishops, who went out singing psalms and thanksgiving to meet it.

For civilized countries respect for the dead body is almost a fetish. The corpses of royal persons, and the rich, are often wrapped in lead and encased in polished oak. The bodies of common mortals are put in coffins made of elm, because it is cheap and withstands water better than other kinds of wood. In the formal Christian burial service we read, "though worms destroy the body," yet with singular perversion coffins are, as a rule, buried beyond the depth at which earthworms flourish.

The frequency with which man, savage and civilized, mutilates his enemy, in frenzy and in spite, is part of his animal nature. Here is a curious example from otters:

FRACTURE OF THE OS PENIS OR BACULUM.

Many mammals, especially the carnivorous, have a bone in the penis. It is also present in squirrels. Oldfield Thomas noticed that the os penis in squirrels shows such striking differences in the various species that he finds it a more reliable guide in classifying the members of this difficult family than their teeth. He thinks it is more convenient to call this bone the baculum—a little stick.

Otters have a bone in the penis, and the two divergent knobs are invested with the reflexion of the prepuce which covers the glans. The end of the urethra emerges in the interspace of what may for convenience be called the terminal condyles of the bone (Fig. 3).

Mr. Gerald Uthwatt, a keen otter-hunter, collected the "penis bone" of otters for a hobby, and noticed, not infrequently, that the bone is broken and healed. It is difficult to account for such fractures unless we know the habits of these animals. When male otters fight, each combatant tries to seize the external genitals (cods) of its adversary. Otters possess powerful jaws and sharp teeth, and their ability to break the baculum, notwithstanding its hardness, need not be a matter for surprise. A similar fracture has been observed in a seal. T. N. Arnold shot a seal in the Caspian Sea. The baculum of the animal had been broken, but the fragments had firmly united. The bone had been broken at a spot corresponding to that in the otter. S. Alphéraky sent a short account of the specimen, and a drawing, to the Zoological Society, London. He found it difficult to offer an explanation of the cause of the injury. Surely male seals are as quarrelsome as otters! This is a mild atrocity of war compared with the awful vengeance man suffers at the hand of man!

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THE SPREAD OF INFLUENZA IN AN INDUSTRIAL AREA.

BY
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EXCEPTIONAL opportunities have perhaps been afforded for making the observations set forth in this paper, both by reason of certain characteristics of the neighbourhood and by reason of the temporary shortage of medical men; and because a similar opportunity might not early arise again, these observations are placed on record.

The area in which they were made contains a population of about 11,000, mainly drawn from the artisan class, and while being a portion of Halifax, it is separated from the town proper by a deep ravine in which runs a railway and small river; a bridge forms the only main connexion with the town.

By reason of open spaces and workshops, seven separate divisions of this area can be recognized which lie on a slope rising westwards and northwards from the main connexion to the town. Westward there are Range Bank and Claremount districts, the latter being divided into Claremount proper and Horley Green; and northward from the bridge there are Haley Hill, Woodside, Akroydon, and Boothtown districts. There are three undenominational schools in the area, but there is only one Roman Catholic school and church. There is a considerable and well scattered Catholic population.

There are no houses of entertainment in any of the districts, the favourite place of entertainment common to all districts, with the exception of Akroydon, being a music hall situated at the farther end of the bridge, and while there are considerable shopping facilities in all districts, there is the usual week-end shopping in the town proper. It may therefore be taken that the adult population in those districts only intermingle freely in the factories and in places of entertainment, and it will thus be seen that there was opportunity for analysing the supposed factors in the spread of the epidemic.

During the epidemic five classes of patient came under observation, namely:

1. Insurance patients; mainly industrial workers.
2. Private patients; mainly dependants of insurance patients.
3. Insurance patients of service doctors.
4. Private patients of service doctors.
5. Poor Law patients.

The main object of investigation during the epidemic is not given in this paper; but because those investigations meant following the subsequent history of patients affected I abstained from including the patients of service doctors, as I did not know how soon I would be able to relinquish their care. Similarly of the Poor Law patients, a considerable number were patients of colleagues who had suggested their removal to the Poor Law hospital, and they were only seen formally by me to certify their fitness for removal.

The statistics, therefore, are confined to my own practice. It has to be noticed that five colleagues, whose practices extend into this neighbourhood, had been called up for military service, and with an individual panel of well over 2,000, increased by about 40 per cent., it may be taken that a fairly intimate knowledge of the epidemic in this neighbourhood was gained.

There have been three separate periods of the epidemic. The first occurred in July, 1918; the second reached its maximum of infection about November, 1918; and the third its maximum about the middle of March, 1919.

The statistics given in this paper refer to the two later periods, for unfortunately, being an early victim of the July epidemic, note-taking was interrupted, and at that time, assistance being unattainable, work was cut down to a minimum.

It was, however, noted that:

1. Individuals affected were chiefly of the insurance class, and infection seemed to be associated with the workshops.
2. The majority were able to attend at the surgery.
3. The wives and children were not affected to any extent, or, if so, it was so slight that they did not consider it worth while to call in a medical man.
4. Illness led to very short incapacity.
5. There were no deaths.

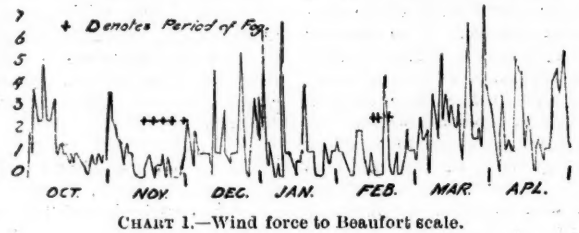

CHART 1.—Wind force to Beaufort scale.

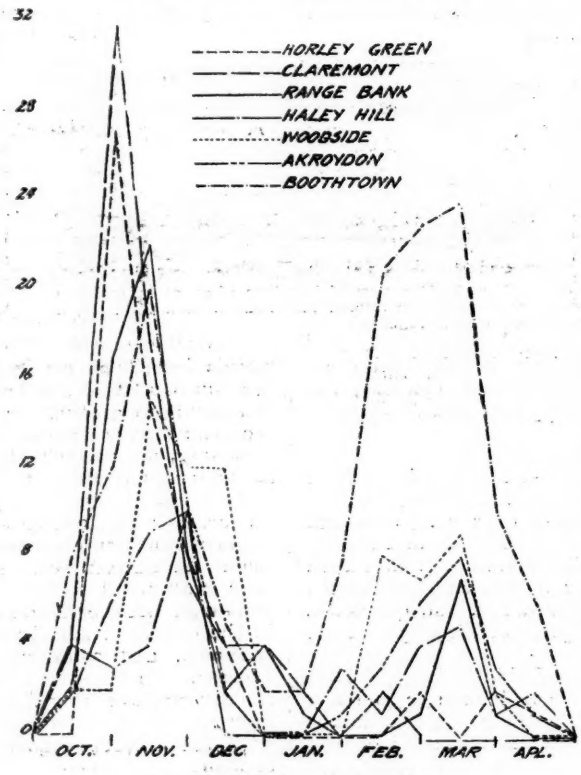

CHART 2.—Private patients visited.

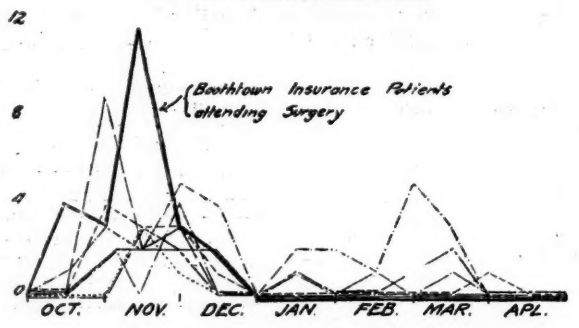

CHART 3.—Insurance patients visited.

During the second and third waves 768 patients were seen; of these, 555 were private and 213 were insurance patients. Of the private patients, 504 were visited in their homes and 51 attended at the surgery. Of the insurance patients, 115 were visited and 98 seen at the surgery.

The total number of deaths which could in any way be attributed to influenza was 19; of these, 9 were amongst the private patients and 10 amongst the insurance.

Of 223 housewives visited, 2 died. There were no deaths amongst either private or insurance patients who were first seen by me in the consulting-room. There was therefore a death rate of approximately 1.75 per cent. amongst the private patients visited, and approximately 8.5 per cent. amongst the insurance patients. It is to be noted that the death-rate amongst housewives was less than 1 per cent.

Among the insurance patients, 3 were removed to the Poor Law hospital, and among the private patients 9, but I am without any exact data with regard to the ultimate course of these cases.

While possessing figures of the total number of cases diagnosed as suffering from lobar and lobular pneumonia, they are not given in this paper. Any practitioner knows there is nothing more difficult than to diagnose with absolute certainty the presence, or absence, of pneumonic consolidation in many of the cases of influenza. We are all aware of the practitioner who, when a patient complains of a pain in the side, safeguards himself from any eventuality by an easy diagnosis of pneumonia—one practitioner, commenting on the large number of cases of bronchopneumonia, informed me they could be distinguished from lobar pneumonia by the absence of dullness—and while an actual death rate can be taken as a criterion of the gravity of an epidemic, I do not see that there is anything to be gained by supplying figures which might be regarded as very debatable.

As the total number of cases seen was less than one in ten of the population, it is not suggested that from these figures any idea can be formed of the total number of people affected in the area. I was made aware of a large number of cases by people informing me that influenza

was present in the house, and that if any of the occupants became worse they would call me in. On the other hand, it may be taken that those figures do bear a definite relationship to those cases in the epidemic which led to any anxiety.

The high death rate amongst the insurance patients visited as compared with private patients visited is to be noted. It might be urged that this was probably due to insurance patients failing to seek the services of a physician unless seriously ill. This suggestion would be scouted by any physician who has had experience in industrial areas, but, apart from that, the relationship of women and children able to visit my surgery to those visited in their homes was 51 to 504, but amongst the insurance patients it was 98 to 115, showing that amongst them I saw a much higher proportion of the milder cases, and therefore it is not likely that the insurance patients showed any hesitation in calling for attendance. A probable explanation of this high death-rate will be discussed later.

The "Household Wave."

When the epidemic first broke out in October infection appeared to be present in all districts, but the two exacerbations here described presented a curious phenomenon which calls for investigation, and which, for purposes of description, is described as the "household wave." On reference to the diagram this will be recognized as a slow advancing wave of infection, which commenced in Claremount district, later on passing through Range Bank, then Haley Hill and Woodside districts, almost disappearing about the new year, and again appearing with marked intensity in the Boothtown district in the early months of the year. It was in association with this "household wave" that the more serious cases occurred, both amongst the private and insurance patients (Charts 2 and 3). It was during its presence that nearly all the deaths occurred, and for this reason it appears that the phenomena underlying this household infection call for the most serious consideration.

As Boothtown was the last district to be visited by the "household wave" there was sufficient time for observations to be made before the onset of the wave, and it is worth noting what occurred in this district. Actually, the first cases with symptoms of the epidemic occurred here in early October, mainly among school children. On reference to the diagram of insurance patients it will be noticed that there was a considerable number of insurance patients affected who were able to visit at the surgery; a smaller proportion had to be visited. It will be noticed further that when the "household wave" visited Boothtown, insurance patients affected, with one exception, were so ill as to call for visitation.

Classification of Cases.

For purposes of analysis I have divided all patients affected into two classes, so far as any one neighbourhood is concerned:

A. Sporadic cases.
B. Cases associated with the "household wave."

Each class had its characteristics:

1. Sporadic cases occurred mainly among the wage-earning members of the household.
2. A sporadic case had little tendency to affect other members of the household, whereas in the presence of the "household wave" usually the whole house was more or less affected with the illness.
3. Sporadic cases were seldom seriously ill; one death occurred in Boothtown, October to December, and one in Claremont, January to April.
4. During the passing of the "household wave" "clumping" of the houses affected was a marked feature. In illustration of this I will give two cases; any one house in the list is within a stone's throw of any other house in the list:

(1) Cases during the October–December period:

Schoolboy	2, A. St.	October	30th.
Office boy	69, H. Rd.	,,	30th.
Schoolboy	11, P. St.	,,	28th.
Worker...	5, S. St.	,,	28th.
Housewife	67, H. Rd.	,,	28th.
Baby ...	13, P. St.	,,	29th.

(2) Cases in February:

Housewife	159, C. Rd.	February	17th.
Housewife	143, C. Rd.	,,	18th.
Housewife	137, C. Rd.	,,	18th.
Housewife	15, I. St.	,,	20th.
Housewife	124, C. Rd.	,,	21st.
Schoolgirl	8, R. Pl.	,,	22nd.
Housewife	28, M. St.	,,	23rd.
Clerkess...	18, M. St.	,,	24th.
Mechanic	26, M. St.	,,	24th.
Railway signalman	1, M. St.	,,	25th.
Mechanic	1, R. St.	,,	26th.
Housewife	24, M. St.	,,	26th.
Weaver...	4, H. St.	,,	27th.

It will be noted that all ages and types of patient are included in these groups.

5. Among sporadic cases there appeared to be no tendency to affect houses in the vicinity.
6. So-called "complications"* of the influenzal attack were much more common amongst those affected in the "household wave" than amongst the sporadic cases.

Consideration of the "Household Wave."

It has already been pointed out that the population intermingles very freely at work and places of entertainment, and there is one school to a considerable Catholic population. If the epidemic had been spread through any of these channels it seems natural to assume that all areas would have been affected at the same time, but this did not occur. The characteristic feature of the spread was the movement from one neighbourhood to another.

Atmospheric Conditions.

It will be noticed that a definite period of time elapsed between the disappearance of the wave in Haley Hill and its appearance in Boothtown. This may have been due to atmospheric conditions, and I am indebted to Mr. Green, librarian, for supplying me with the following observations in regard to the velocity of the wind and the presence of fog during the epidemic:

During the period November 11th to December 2nd there were twenty-one periods of calm (two periods of observation each day and Sundays not observed) the wind never exceeded light air and there were five days on which fog occurred. This period will be noticed to coincide with the crest of the November epidemic.

During the whole of December there were only seven periods of calm, no fog, and winds varying from light breeze to strong occurred during twenty-two periods.

From January 5th to 17th there were eight periods of calm and nine periods of light air (0 and 1 on Beaufort scale), and on the 9th there was a moderate gale (7 on Beaufort scale).

During February, when it will be again noticed the epidemic was at its maximum, there were thirteen periods of light air and twenty-three periods of calm, with three days of fog. On the 17th there was a fresh breeze.

From March 10th until the end of the month only four periods of calm were recorded and six periods of gale occurred.

From the details supplied I have prepared the diagram shown by taking the average velocities for the two periods of each day (Chart 1).

The diagram of the influenza spread is not traced in sufficiently short periods to allow accurate comparison, but the diagram seems to justify the opinion held by many, that strong winds are the best known preventive of the spread of the epidemic. And here it may be asked, If strong air currents are beneficial in breaking up the virulence of an epidemic, why should they be considered harmful as a means of breaking up the virulence in the unit of the spread, that is to say, in the home?

Very early in the epidemic it struck me as curious that generally the first member of the family affected appeared to escape with the mildest attack, and that serious illnesses usually developed among the other members of the family. I made observations of this in a large number of cases; the assertion is obviously rather difficult of proof, but to find probable confirmation of it I have analysed the cases where death occurred.

* In subsequent parts of this paper the term "secondary stage" is used in preference to "complications," and, so far as this paper is concerned, the use of this term may be accepted, I think, without reasons being given for its use.

Increase of Severity from First Case in a House: Number of Deaths.

No. of Case.	Relationship to Infection in House.	Remarks.	No. of Case.	Relationship to Infection in House.	Remarks.
1 ...	1st	Lived alone.	12 ...	1st	Sporadic.
2 ...	4th	Six in one bedroom.	13 ...	1st	
3 ...	2nd		14 ...	2nd	
4 ...	3rd	Brothers; six inmates residing in one-roomed cottage.	15 ...	2nd	
5 ...	3rd		16 ...	2nd	
6 ...	2nd		17 ...	1st	Nursed sister who was said to have been seriously ill with influenza and pneumonia.
7 ...	3rd				
8 ...	2nd				
9 ...	2nd				
10 ...	1st	Sporadic.	18 ...	2nd	
11 ...	2nd		19 ...	1st	

During the winter, lines of dealing with the epidemic were sought, and as the amount of knowledge increased, added to the experience gained during the summer epidemic, more or less definite lines were adopted, and as the lines disagree in many ways with the current teaching in regard to this, the thought which prompted them may be given.

It scarcely seems credible that the human organism is devoid of any protective mechanism against the attacks of an air-borne virus inimical to that organism, short of development of an immunity acquired through the presence of the virus or its products in the tissues or circulating fluids of the body. If such protective mechanism exists it is inherited, and it is natural to assume that that protective mechanism will give the best reaction in an environment in which the mechanism has been evolved, and short of that, in the normal environment of the individual. The natural environment of man is inherited, his normal is usually acquired. Reversion to inherited is beneficial to the organism; thus, the acquired environment of a large number of the men called up for military service was the factory and the workshop, and the result of placing them in the inherited environment of the open-air life of military service need not be laboured here.

Infection in a normal environment should therefore be preferable to infection in an abnormal, both by reason of easier recognition of the virus, and if the normal environment can be maintained, by better reaction of the protective mechanism. The natural environment of man is the open-air life; the lesser modification of this is the factory, school, or places of entertainment, and the larger is the average industrial home. It was the realization of this fact which made me refrain, contrary to the advice of the Royal College of Physicians, from advising insurance patients who consulted me at the surgery to confine themselves too much to bed. In this connexion I may mention the case of a demobilized soldier. I had been in attendance at a house, and I noticed the man sitting by the fire, looking very ill; he had a temperature of 103°, and I advised him to go to bed. He replied, "Aw mak nowt o' bed; aw'll cure mesen." The next day when I called he was out, and two days later when I called he was shaving himself; he looked well, and was grinning all over his face. It appeared that on the first day he had gone for a walk of about five miles; on the second day he awoke "feeling stiff all over" and "no better," so he went for a walk of about eight miles, and finished up by going into a public-house and having "fourteen gins." "Aw kept on callin' and they kept on bringin'; aw got drunk, but aw'm alreight nah." He gave credit to the combination of remedies.

Whether the patient stayed away from work or not was left very much to his own feelings, and no patient who consulted me at the surgery ever passed into the "secondary stage." Those cases were sporadic, presumably received infection in normal environment, and reaction was good.

In the case of the "household wave," the first affected usually appeared to receive a more serious affection than the sporadic, but not so serious as those subsequently affected in the same house. The illustration of this is to be found in the high visiting and low consulting lists in relationship to the "household wave." Investigations were made, mainly in the hope of finding some means of breaking the malignancy of the "household wave," but much remains obscure.

The reason why subsequent cases were more serious than the first in any one home is probably due to three factors:

(*a*) That density of infection has probably a definite relation to intensity of attacks.
(*b*) That the usual household precautions in the presence of illness leads to greater abnormality of the environment, and thus lowers the sensitiveness of the protective mechanism of other inmates.
(*c*) That those same precautions probably prevented any attenuation of the virulence of the micro-organism when passing from host to host.

But why the first case in the household was, on the average, more serious than the sporadic, and why the "clumping" should occur, is difficult to understand. Casual observation might lead one to suppose that the spread was due to actual contagion from one house to another. At first I regarded it simply as due to "neighbourliness," but later on became convinced that this could at most only be a partial explanation of the spread. In many of the households affected in a "clump," a suggestion of being in any of the other affected houses was absolutely denied. It will further be noticed that within one particular "clump" two or three houses commenced on the same date, and further, owing to the general fear of the epidemic, spread by newspaper reports and other methods, if the epidemic was known to be present in a house, the house was usually shunned by neighbours. In many cases the houses were not in direct contact but separated by the breadth of the street or by garden walls. It was easy to be supplied with a probable source of infection, as easy as for the average parent to trace the ailments of childhood to vaccination, for during the whole winter in populous areas there must have been very few who were not time and again in contact with infective persons; but why people within small radii of one another, of all ages, of different occupations, not coming in actual contact with one another, should develop synchronous attacks, still remains a mystery to me.

Ventilation of Sick-room.

With the lull at the New Year opportunity was afforded for a preliminary review of observations, and from that time onward, when called to visit, the first thing considered was the condition of the atmosphere. The people were advised to open the windows, remove screens, and if possible a through draught was sought after, by opening front and back windows and intermediate doors. This ensured that at least during one period of the day the atmosphere of the room was changed. It was impressed upon the occupants that the need for open windows and through draughts was as great for them as for the patient. To illustrate this two cases may be cited.

In the first, the patient lived in a one-roomed cottage along with two children, aged 10 and 3; catarrhal symptoms were present in the child aged 10. After visiting in the forenoon, I was called to see the woman late at night and found she had developed severe bronchial symptoms. The room was hot and stuffy; there was no ventilation, owing to the fact that the window was enclosed in one frame not made to open. A rolling pin was borrowed from one of the neighbours and a pane of glass was smashed out. On the following day the air of the room was cool and comparatively fresh, both patients showed improvement, and the child aged 3 did not develop the symptoms.

In the other case a family of ten (eight adult) resided in a house with three bedrooms, the whole family sleeping within a circle of 12 ft. When first visited two were in bed and the mother was obviously infected. Serious warning was given of the danger in such a household, but fortunately, in this case I knew that any instructions given would be carried out; every window was opened and all inside doors, and remained open during the period of infection. None of the rest of the family developed symptoms. Two developed symptoms three months later; five have escaped so far.

This advice appeared to be in such direct opposition to that given in the newspapers and by the local health authorities, that it led to much discussion, and, for me, waste of time, but it was a pleasing feature that in the later stages of the epidemic people seemed more ready to appreciate the value of the open window.

As much of the prejudice appeared to be traceable to the memorandum issued by the Royal College of Physicians, and to the more or less garbled summaries issued by local authorities, presumably on the advice of the Local Government Board, one is now justified in asking if the data on which that memorandum was based can be supplied, and if the statement that "draughts are harmful" was really the subject of careful investigation, or if the College was simply lending moral support to current superstition. I scarcely think that the harm from the advice "on the first feeling of illness or rise in temperature" (how many of the population possess thermometers?) "the patient should go to his bed at once" was balanced by the subsequent advice to "call in a doctor." If home conditions were ideal no one could take exception to the advice. The rest in bed would increase the ratio between the anabolic and katabolic processes in the body and thus raise the resistance of the individual cell; but that which may be good advice to a community where a high standard of living obtains may be detrimental where the standard of living is low. To advise people, who to avoid draughts normally place pads along window-sills, screens around beds, and even stuff paper into key-holes, that they should on the first symptom of illness leave their normal environment, go home to bed, and avoid draughts, is surely advising them to court disaster. This was not the intention of those who framed the memorandum, but this was the practical result of their advice.

As there are indications that the epidemic has not entirely exhausted itself, and that, given suitable climatic conditions, there may be a recurrence during the coming winter, attention may be called to the preventive measures suggested by the health authorities. In regard to the closing of places of entertainment or restriction of the hours of continuous performances in picture houses, I was unable to find a single case where infection could be definitely traced to this source. It can be seen that the place of entertainment could have no relation to the influenzal wave in this neighbourhood. To close these places can only increase the hours of congestion in the home, and to limit the hours of continuous performances can only increase the congestion of individual performances. The ludicrous suggestion as to the wearing of masks and even goggles was fortunately not adopted, for, if there be any advantage in wearing them, that advantage would be lost in the place where the wearing of them appears to be most necessary.

Toward the end of 1918 a stock vaccine was placed at our disposal and application was made for this, but I found it was suggested for use in prophylaxis. The use implied certain moral obligations to supply the Local Government Board with certain statistical information, which obviously to me could not be given. During the evening on which I received the vaccine I spent a quarter of an hour trying to persuade a husband to be inoculated, but he finally declined. He did not develop the symptoms. Theoretically, or under military discipline, vaccines may be of great value, but the time is not yet when we can line up masses of the civilian population and tell them to roll up their sleeves.

The value of the notification of pneumonia has already been commented upon.

Any medical man can realize and sympathize with the embarrassment of a department in the midst of a popular clamour to "do something," but it is to be hoped that that will not overrule the detached judgement. Much could be done, however, by the compulsory opening up of fever hospitals for the reception of cases where there is overcrowding in a house or where the early symptoms of the "secondary stage" are present. Cases removed to the Poor Law hospital appeared to do well; two insurance patients with lobar pneumonia and acute mania, which I regarded as hopeless when removed, made good recovery. This, I think, is associated with the phenomenon of the higher mortality among insurance patients; the environment of the house is more abnormal to the worker than to the housewife, whose mortality was remarkably low. There is, however, a certain prejudice to all Poor Law hospitals which will not be easily removed. Two of my cases who died informed me that while they would be willing to go to the fever hospital they would rather die than go to the "union." In the case of one—a pregnant woman who was confined before her death—I felt sympathy for her point of view.

Apart from this I cannot suggest any steps which central authorities could take to break up the epidemic. It is difficult to see how the house-to-house spread can be prevented. Houses and habits cannot be altered by panic legislation in the midst of an epidemic. If people would follow their usual routine and realize the benefit of strong air currents there would be little fear of dangerous infections.

Much has been written about the relation of the general health of the community to the epidemic. There may be some relation, but so far as the suggestion that war conditions led to an impairment of the general health of the community, I am without evidence. During the two months preceding the epidemic there was a small visiting list as compared with previous years; there was the usual routine of the consulting insurance patient, but even amongst them there was nothing to indicate any marked impairment of health.

In regard to the after-effects of the epidemic, while it may still be premature to form an opinion, during the last three months I have only seen one of the observed cases with an illness which appears to be directly traceable to the infection, and during this summer there has been exceptionally little illness. In this fact may be found the true explanation for the small practice of the demobilized officer.

I am fully aware how little importance will be attached to the views here expressed, by those who frame regulations, but with the experience gained in over 1,000 cases, and with many hours spent in analysing the observations made, I cannot help but express the view that if public health authorities cannot be a help to the general practitioner, they should at least refrain from being a hindrance.

THE SCOPE OF CERTAIN GASEOUS DISINFECTANTS IN THE PROPHYLAXIS OF INFLUENZA.

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Since the publication of my note on the epidemiology of influenza among gas workers (British Medical Journal, March 1st, 1919) evidence has been accumulating that people working in an atmosphere containing certain gases obtain a marked degree of immunity during outbreaks of influenza. Shufflebotham (British Medical Journal, April 19th, 1919, p. 478) has brought forward an interesting series of figures pointing in the same direction. In the present paper my object is to describe some experiments undertaken with a view to determining the value of SO_2 and NO_2 respectively for the present purpose, and in doing so I may mention that latterly, through the kindly offices of the Medical Research Committee, I have been able to co-operate with Dr. Benjamin Moore, F.R.S., and Mr. Webster of their staff, whose report may be expected at an early date.

The problem for investigation may be summarized in two questions:

1. Is there any epidemiological evidence to show that workers in fumes are less attacked by influenza than others?

From all statistics at present at our disposal we venture to answer this proposition in the affirmative.

2. Is there any evidence to show that the fumes emanating from these manufactures have any influence on the vitality of bacteria in the post-nasal secretion of persons inhaling them?

It goes without saying that if a practical measure for preventing the spread of influenza by means of a disinfectant gas is to be elaborated, the concentration of this gas must be such that while exerting the requisite action on the secretion of the upper respiratory passages of those inhaling it, no untoward effect is produced. It may be stated at once that throughout the following experiments with SO_2 and NO_2 gases the concentration of these gases in the air of the room was so small as to be comfortably outside the limits of their toxic action.

Emphasis must also be laid upon another point in this relation. *A priori* it is exceedingly improbable that sterilization of the secretions of the upper respiratory passages can be effected by even prolonged inhalation of disinfectant gases in such low concentration as are now under consideration. It must be realized, however, that the problem is not one of sterilization, but of checking the spread of influenza; and it is conceivable, and even probable, that a moderate degree of disinfectant action on the secretion of the upper respiratory passages, while falling considerably short of complete sterilization, may nevertheless be of very great value in limiting the spread of infection, particularly if the action is such as to render this secretion even moderately unfavourable to the multiplication of the invading micro-organism.

Bacteriological Experiments.

The methods used were suggested by Gordon and Flack in their paper on the disinfection of meningococcus carriers.[1] Their investigations were confined to the use of the steam spray, though they pointed out at the same time that a disinfectant could conceivably be conveyed to the nasopharynx by means of gas. There is evidence from many sources that the use of the spray with high pressure steam did much towards the reduction of mass infection in meningococcal infection among troops, and now an attempt is here made to show that even better results can be obtained by using gases. The difficulties of applying the spray to masses of the civil population in times of epidemic are almost insurmountable, whereas in the form of gas a certain degree of disinfection of the upper respiratory passages could be brought to practically every home.

For the purpose of the valuation of the plates used in some of the experiments, the following standard has been adopted:

++++ = Growth profuse, colonies confluent.
+++ = Growth profuse, colonies less confluent, discrete colonies fairly evident.
++ = All colonies discrete.
\+ = All colonies discrete and very small.
(+) = Very, very few colonies, all pin-point.
— = Sterile.

(*a*) *Experiments in the Works.*

Forty-three workers (some full time, others partial) were swabbed, and the results according to the above standard are set out in the following table:

	Gaswork Fumes.	HNO_3 Fumes.	Acetone Vapour.	SO_2 Fumes.	Total.	Per Cent.
++++	2	1	0	0	3	6.9
+++	4	3	0	1	8	18.6
++	0	0	0	1	1	2.3
+	5	5	0	1	11	25.5
(+)	6	4	5	1	16	37.2
—	1	2	0	1	4	9 3

In addition three non-workers were exposed to the SO_2 fumes in the roasting house of the tin mine for a period of 45 minutes.

Result: No. 1 ... ... (+)
No. 2 ... ... 3 colonies
No. 3 ... ... (+)

Nos. 2 and 3 were further experimented on. Swabs were taken twenty hours after the above forty-five minute exposure.

Result: No. 2 ... ... +++
No. 3 ... ... ++

Swabs taken forty-four hours after—

Result: No. 2 ... ... +++
No. 3 ... ... ++

On another occasion four experimenters were swabbed after having been in the atmosphere of the roasting house of the tin mine for about an hour and a half. The result was a distinct diminution of the post-nasal growth, and the following values were placed on the plates three hours after exposure:

No. 1 ... ... ++
No. 2 ... ... ++
No. 3 ... ... ++
No. 4 ... ... +

The concentration of SO_2 in the atmosphere happened to be very dilute on this day.

(*b*) *Laboratory Experiments with SO_2.*

Two experimenters were employed; one was exposing plates and culture tubes to SO_2 fumes, and he was swabbed at different intervals after his exposure, with the following results:

One hour after ... ... (+)
Sixteen hours after ... ... (+)
Twenty-four hours after, on two occasions ... ++

On another occasion one was exposed for eight minutes and swabbed an hour after. Result: All colonies discrete and very small.

Another was exposed for fifteen minutes and swabbed an hour after. Result: Sterile.

The laboratory fumes were much stronger than those in the roasting house of the tin mine, but they could be easily borne without much discomfort, and tolerance was established in a very short time limit.

As a contrast to the laboratory experiments the results obtained on the workers in SO_2 fumes may be given *in extenso*:

Five workers, divided into two classes were swabbed. Class A consisted of three men always working in fumes; Class B of two men partially working in fumes.

Class A, No. 1... ... (+) Class B, No. 1 ... ++
No. 2... ... + No. 2 ... +++
No. 3... ... —

Laboratory Experiment with Nitrogen Peroxide (NO_2).

The nitrogen peroxide fumes were inhaled for about ten minutes by two experimenters. Swabs taken about an hour afterwards gave the following results:

No. 1... ... — No. 2 ... (+)

On another occasion four experimenters were exposed daily for five days, and swabs were taken at various intervals afterwards up to fifteen hours. It may be said, without going into individual detail, that all plates showed a very marked decrease in growth, though none were sterile.

For the sake of comparison the detailed results of the swabbing of fifteen workers in NO_2 fumes are given. Of these, two men swabbed during work=(+). In thirteen men just commencing a shift after twenty-four hours' rest (some whole-time fume workers, some partial) the following results were obtained:

In 1 ... ... ++++
In 3 ... ... +++
In 0 ... ... ++
In 5 ... ... +
In 2 ... ... (+)
In 2 ... ... —

These results, obtained by swabbing workers, must be considered satisfactory, and, taken in conjunction with the experiments carried out in the tin mines and in the laboratory with SO_2 and NO_2 among non-workers, leave but little doubt that the fumes under review have a marked effect in inhibiting the post-nasal microbial growth of those exposed to them. Plates have only to be compared with what may be styled the "normal post-nasal plate," now so well known to all workers in cerebro-spinal fever, to note the vast difference in growth. In all the workers except three the growth was diminished, and in no less than sixteen the few colonies were just visible, and four plates were actually sterile. Among non-workers exposed in works, and in the laboratory experiments, the same results were obtained. Two plates were sterile and one nearly so (three colonies). Taken as a whole, 74 per cent. of the workers had their nasal passages well disinfected. Practically the same results were achieved among non-workers exposed at the respective works, and under similar conditions reproduced in the laboratory. It is not claimed that every nasopharynx will be rendered sterile by exposure to gas, nor is such necessary, but it is claimed that certain gases have a powerful inhibitory action on post-nasal flora, and that such action is quite sufficient to render many workers in those gases immune to disease which invades the body through the upper respiratory passages. Further, it is claimed that the same results cannot be achieved by the use of antiseptic and alkaline gargles, douches, and hand sprays, and other favourite methods now in vogue. It is needless to point out the difficulties that every worker in infectious diseases which have their origin in the upper respiratory passages has experienced in getting rid of his carriers and in preventing the spread of the disease, and until Gordon evolved the high pressure steam method of disinfection the case seemed hopeless, and the unfortunate carrier had to be left to fight his own battle against the invading micro-organism. Disinfection by gas, however, is an advance on steam, and is much simpler and easier of

application. It must be noted here that the nasal secretions of the experimenters were always acid.

Summing up all the evidence under this heading, we are justified in coming to the conclusion that gases have a profound inhibitory influence on the post-nasal flora of workers, and also in non-workers exposed both in the works and also under laboratory conditions.

Is there any evidence to show that fumes emanating from those manufactures have any action on inoculated plates and on microbes suspended in different liquid media?

The method of inoculating and exposing plates was that suggested by Gordon in the BRITISH MEDICAL JOURNAL of July 1st, 1916. A twenty-four-hour old broth culture of *Staphylococcus epidermidis* was used, and an equal amount of the germ was sown on each plate. The results of the plate exposures are shown graphically in the accompanying charts, except the plates exposed to SO_2 fumes, which are dealt with separately. The charts seem to indicate that the fumes of the oxide of iron purifiers have the most powerful inhibitory effect on microbial growth, a sterile plate being obtained with a ten-minute exposure (Figs. 1 and 2). The most remarkable result, however, is that shown in Fig. 3, where the plates were exposed on a plank lying on the ground in the open yard of a gasworks while the routine work of the day was being carried on. Experiment IV was carried out in the nitric acid retort house. The plates were exposed in the general atmosphere of the shed and direct to the fumes issuing from the retorts, and where the men were working. In general a certain variation is observed in most of the results with regard to the time of the exposure, but this can easily be accounted for by the fact that the fumes are practically discharged into the open air, and therefore subject to great irregularity of atmospheric dilution.

Charts showing Time of Exposure to Fumes Required to Kill Germs on Inoculated Plates.

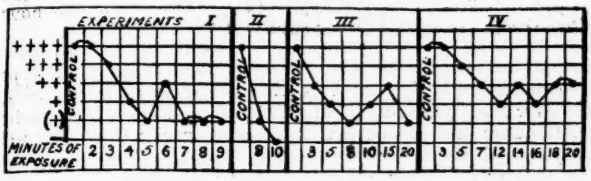


FIG. 1. FIG. 2. FIG. 3. FIG. 4.

Experiment I.—Exposure in gas purifier (oxide of iron) while being discharged for cleansing.

Experiment II.—Exposure to fumes from heap of oxide of iron, twenty-four hours after discharge from purifier.

Experiment III.—Exposure in the open yard, surrounded by the different buildings where the various processes of gas making are carried on.

Experiment IV.—Exposure in nitrogen peroxide fumes during the manufacture of the acid.

The action of SO_2 fumes on inoculated plates is entirely negative, as shown by the following experiments:

Experiment 1.—(a) In the Tin Mine.

Ten plates were exposed to the fumes emanating from the ovens in the roasting house of the tin mine for periods varying from five to thirty minutes.

Result of all plates ... ... ++++

Experiment 2.—(b) In the Laboratory.

Sulphur dioxide (SO_2) fumes were generated in the laboratory, and six inoculated plates were exposed for periods varying from twenty to forty-five minutes.

Result of all plates ... ... ++++

From these results it was evident that Gordon's method of testing inoculated plates is not adapted for the case of SO_2 fumes.

The method of using inoculated plates was therefore abandoned and attention was directed to bubbling the gas through the suspensions of organisms in liquid media. The following experiments were carried out with different gases:

Experiment 3.—SO_2. (a) In the Tin Mine.

Gas bubbled through a saline suspension of *Staphylococcus epidermidis* at the time the men were at work for twenty minutes gave a very marked reduction of colonies after nine and ten hours' incubation, as compared with the control.

Experiment 4.—(b) In the Laboratory.

Half an ounce of sulphur was burned in a room of 1,000 ft. cubic capacity. The resulting atmosphere was borne without the slightest discomfort, and very little irritation was noted in the respiratory passages. This atmosphere was sucked through three wash-bottles containing different media and each inoculated with one loopful of a known suspension (Bottle I contained a saline suspension; Bottle II a broth suspension; and Bottle III a broth and horse serum 10 per cent. suspension). The three bottles were bubbled simultaneously, so that each had the same dose of gas. Bubbling was kept on for twenty minutes and the bottles then placed in the incubator.

TABLE I.

	Bottle I.	Bottle II.	Bottle III.
Reaction after exposure	Slightly acid	Distinctly acid	Distinctly acid
	No. of Colonies per c.cm.	No. of Colonies per c.cm.	No. of Colonies per c.cm.
Control before bubbling	7,300	8,000	8,000
After incubation for			
1 hour	6,400	9,000	7,800
2 hours	60	Sterile	8,000
3 ,, ...	Sterile*	14	8,200
4 ,, ...	—	28	9,600
5 ,, ...	—	14	8,500
6 ,, ...	—	Sterile*	9,400
7 ,, ...	—	—	10,300
9 ,, ...	—	—	11,400*

*Bottles I and II were still sterile at the end of twenty-seven hours. The number of colonies per c.cm. in Bottle III remained about 11,400 up to twelve hours; at the end of twenty-seven hours they were uncountable.

The result of this experiment shows that even in a very rich medium the passage through it of an atmosphere feebly diluted with SO_2 was sufficient to inhibit the growth of microbes. The third part of the experiment was therefore carried further and a control used.

TABLE II.—*Broth with 10 per cent. Horse Serum.*

	Control (Serum Broth).	Serum Broth treated with SO_2.
	No. of Colonies per c.cm.	No. of Colonies per c.cm.
Controls before bubbling	21,700	18,200
After incubation for		
1 hour	27,000	Dose of gas (10 mins.). 16,500
2 hours	25,000	15,100
3 ,, ...	25,000	21,500
4 ,, ...	29,000	29,000
		Dose of gas repeated (10 mins.).
5 hours	35,000	19,800
6 ,, ...	All plates after this period uncountable	17,800
7 ,, ...		16,100
8 ,, ...	——	3,700
		Dose of gas repeated (10 mins.).
9 hours	——	Sterile, and remained so at end of 13 hours

From this it is evident that, no matter how rich the medium is, a weak atmosphere of SO_2 has the power of killing the microbes, and further, that repeated small doses are more efficacious than one long dose. Judging from the figures it would appear that the medium was sufficiently impregnated by the second dose to inhibit all growth.

Experiment 5.—NO_2. (a) In Cordite Factory.

A saline suspension through which the atmosphere of the HNO_3 house was bubbled for two hours yielded sterile plates after six hours' incubation, and they remained sterile at the end of twenty-four hours.

Experiment 6.—(b) In the Laboratory.

The experiment with the three media was carried out using the same technique as in the case of SO_2.

TABLE III.

	BOTTLE I.	BOTTLE II.	BOTTLE III.
Reaction after exposure	Slightly acid	Distinctly acid	Distinctly acid
	No of Colonies per c.cm.	No. of Colonies per c.cm.	No. of Colonies per c.cm.
Control before bubbling	57,600	53,100	50,720
After incubation for			
3 hours	45,920	—	22,400
6 „	20,800	60,800	24,960
9 „	Sterile	Uncountable	Uncountable

Note.—Bottle I contained a saline suspension; Bottle II a broth suspension; and Bottle III a broth and horse serum 10 per cent. suspension.

Experiment 7.—(a) In the Works.

Experiment with fumes from spent oxide of iron turned out of "coal-gas purifier" exposed to the atmosphere in the process of revivifying for repeated use. This gas was bubbled through a saline suspension for twenty minutes and placed in the incubator.

Number of colonies after 4 hours' incubation ... 20
„ „ after 6 „ „ ... sterile
„ „ after 8 „ „ ... sterile

Experiment 8.—(b) Chlorine Gas in the Laboratory.

This was bubbled through a saline suspension, with the result that the plates were sterile after six and eight hours' incubation.

Plates of swabs from two experimenters exposed showed no diminution in growth, and as the effects of the gas on them were so disagreeable no further trials were made in this direction. Twenty-four inoculated plates which had been incubated for twenty-four hours and showed varying growths of the organism were placed in an airtight box. A massive dose of chlorine gas of a strength of between 1 in 1,000 and 1 in 2,000 was introduced to see if further growth could be inhibited. The box was left at room temperature for twenty-four hours. On opening the box at the end of this time a distinct odour of chlorine was perceptible, but notwithstanding this and the massive dose given there was a distinct increase of growth on all the plates.

9. Other Experiments in the Laboratory.

Six sterile plates were exposed in an ordinary room for two hours. At the end of twenty-four hours' incubation they yielded a total of 53 colonies, an average of 8.8 colonies per plate. The room was then gassed with NO_2 for two hours. During this gassing period an inoculated plate was exposed, and yielded only 24 colonies, and it was noted that the agar was distinctly yellow. At the end of two hours' gassing a further six plates were exposed for two hours, and those yielded at the end of twenty-four hours' incubation 21 colonies, or an average of 3.5 per plate. This experiment was repeated with the following result: Six sterile plates gave 32 colonies, or an average of 5.3 per plate. This was reduced to 17, or 2.8 per plate after gassing.

Practically parallel findings were obtained with SO_2 before and after treatment of the atmosphere, the growths being about halved. From all these experiments no doubt remains but that these fumes, both in the factory and in the laboratory, have a powerful inhibitory influence on the growth of microbes.

Practical Application of these Investigations.

An attempt was now made to bring the results into practice. There was an outbreak of influenza at a camp during this time, and it was resolved to try to disinfect the men *en masse* with NO_2, and a drying room was set aside as an inhalatorium. To generate the gas, strips of copper and HNO_3 were used. The concentration of nitrogen peroxide in the air was so graded that the odour was by no means irritating or disagreeable to bear, and the men were kept in it for fifteen minutes. No one made complaints as to any ill after-effects. The battalion was unfortunately in the process of disbandment, and as a consequence discipline was somewhat lax. It was impossible to keep accurate records, and the men subjected themselves to the treatment voluntarily. Notwithstanding this, some 400 men were passed through the inhalatorium during a period of five days. Many of the men were being sent away in drafts to the disbandment centre; it is much to be regretted that no figures are available as to the effect of the treatment on the incidence of the epidemic. But one fact was clearly established—namely, that it is quite practicable to expose bodies of men to a dilute atmosphere of NO_2 in the same way as the steam spray without the slightest discomfort or harm to the individual.

The next experiment was carried out on a body of civilians. A gang of navvies building a dry dock was housed in a large disused grain shed in the docks. The ground floor was used as a mess-room and kitchen, with rows of gas stoves. There were no windows for light and ventilation, which was obtained through two large double doors. A stair led up from the mess-room to the men's sleeping quarters, which were far from ideal, being a replica of the mess-room, with the exception that there were three double doors through which goods were hoisted. These were kept open during the day when weather conditions permitted. The men slept on bed-boards and the usual army mobilization standard of 400 cubic feet was allocated to each man. There were fifty men in occupation and they kept the quarters quite clean. Two cases of influenza were reported late one evening, and they were removed to the hospital on the following morning. They may be classed as severe, but uncomplicated. With the willing co-operation of the contractor and the navvies it was agreed to use SO_2 gas as a prophylactic. Half an ounce of sulphur per each 1,000 cubic feet space was burned slowly in the sleeping quarters while the men were going to bed and on rising in the morning. This dilution caused no discomfort and little irritation in the nasal passages, and the double dose was continued for fourteen days, and no other case occurred. The numbers are far too small to draw any definite conclusion as to the value of the procedure, but the result is striking when all the conditions under which the men were living are taken into account, for it may be said with confidence that these were ideal for the spread of any spray-borne disease. Just as in the case of the NO_2 gas with soldiers, this experiment brings out the fact that it is quite practicable to disinfect large bodies of the civil population with gas in times of epidemic. The *modus operandi* of the disinfection was carefully explained to the men, and they entered enthusiastically into the experiment.

SUMMARY.

1. Workers in gas fumes have shown a certain amount of immunity during the recent waves of influenza, as compared not only with other classes of the community, but also in one instance with those working in the same factory but not in a fume department.

2. Post-nasal swabs taken from employees at the time of working, and also after being twenty-four hours off duty, showed either a very marked decrease in the growth of microbes in nearly every instance or were sterile. The same observation holds good in regard to non-workers experimented on in the works and in the laboratory.

3. With one exception—namely, SO_2—plates inoculated with the *Staphylococcus epidermidis* and exposed to the fumes of the factories showed a marked diminution in growth, and in one instance sterility was attained.

4. SO_2 had no action on inoculated plates. But when this and other selected gases were bubbled through suspensions of organisms, in various liquid media, the growth was completely inhibited.

5. It has been definitely proved that groups of men can be exposed to NO_2 and SO_2 gases for lengthened periods during epidemic times without the slightest discomfort or harm to anyone.

6. There was no evidence of nasal irritation and consequent increased flow of mucus among the workers. Further it was noted that among non-workers exposed in the works, in the laboratory, and in the inhalatoria, any initial irritation caused by the fumes quickly disappeared, and that tolerance was quickly established.

7. The nasal secretions after exposure were always found to be acid.

8. It is suggested that the mode of action of NO_2 and SO_2 fumes may be that as the secretions of the upper

respiratory passages are rendered acid a medium is formed which is inimicable to microbial growth.

Note on Immunity from Second Attack.

Navy.—Of 321 cases in patrol in the July epidemic, 2 had return attacks in the October-November epidemic.

Army.—A company of Royal Garrison Artillery had 25 cases in July. None of these were attacked in the October-November epidemic. In a battalion: Of 21 cases of the July epidemic traced none were attacked in that of October-November.

N.E. Works.—From July 10th to 23rd, 73 males and 59 females were attacked; from October 16th to 29th, 29 males and 61 females. Two males and four females were attacked in both epidemics.

From the above figures it would therefore seem that an attack conferred immunity for a certain time.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, November 18th, 1916.

INTUSSUSCEPTION DUE TO POLYPUS OF SMALL INTESTINE.

BY

E. C. BEVERS, M.B., B.Ch.Oxon., F.R.C.S.Eng.,

HONORARY SURGEON, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL, OXFORD.

THE following case is of interest in view of the number of attacks spread over a long period.

History.

L. H., aged 5, had been under the care of Dr. Watts of Haddon Close. He reported that this boy had suffered all his life from acute intestinal paroxysmal attacks, preceded by vomiting, and followed by tenesmus with the passage of blood and slime. They varied in severity, lasted from twenty-four to thirty-six hours, and occurred about every six weeks. The pain during several of the attacks was most marked in the right iliac fossa. They were thought at one time to be due to chronic constipation, but they persisted even when the bowels had been carefully attended to. On two previous occasions the child had been admitted to hospital, but in each instance the attack passed off, and there seemed to be no direct evidence of intussusception.

Operation.

On April 18th, 1919, he was admitted to the Radcliffe Infirmary under my care. The pulse was 120 and the temperature 99° F. He was then suffering severe abdominal pain; there was some distension, and a mass could be felt in the transverse and descending colon. On examining the rectum a little blood came away on the finger.

The diagnosis of intussusception was made and operation at once undertaken. An incision was made in the middle line below the umbilicus, and the apex of the intussusception found to be in the descending colon. Reduction was easy at first until the appendix appeared, when there was a hitch, due to a lump which could be felt in the caecum, and which refused to pass back through the ileo-caecal valve. Time and patience overcame this difficulty, and reduction was eventually obtained.

The mass, which was about the size of a walnut, was situated in the small intestine eighteen inches from the ileo-caecal valve, the bowel wall being dimpled on the anti-mesenteric border, where it was attached. A longitudinal incision was made in the bowel, and a sessile polypus ligatured and removed. The incision in the bowel wall was closed transversely, and at the same time a very long appendix was removed.

After-History.

The child made a good recovery, but six weeks after the operation there was a slight attack of abdominal pain which soon passed off. The polypus proved on examination to be an adenoma.

The intussusception was of the entero-colic type, the small intestine with the polypus at its apex passed through the ileo-caecal valve for some distance, the caecum, appendix, and colon being subsequently drawn in. The remarkable feature of the case is the attacks of pain, which appear to have occurred at intervals ever since birth. It is probable that in the previous attacks the intussusception was confined to the small intestine, the polypus approaching to or reaching the ileo-caecal value, but not passing through it until the final attack.

THE National Academy of Medicine and the Surgical Society of Rio de Janeiro are compiling a catalogue of all medical publications that have appeared in Brazil within the past hundred years. This catalogue will be distributed at the celebration of the Centenary of Independence which is to be held in 1920. A Congress of Medicine will be held at the same time in Rio de Janeiro under the direction of Professor Fernando Magalhaes, president of the Sociedade de Medicina e Cirurgia.

A CASE OF STRANGULATED HERNIA WITH VOLVULUS.

BY BASIL HUGHES, D.S.O., F.R.C.S.,

MAJOR R.A.M.C.(T.F.).

THE following case is of interest for several reasons: First, volvulus occurring in a hernial sac is rare; secondly, the symptoms were remarkably mild considering the condition that existed; and thirdly, the patient gave no trouble during convalescence and the wound healed by primary intention despite the offensive nature of the sac contents.

W. R. was admitted to No. 39 Stationary Hospital on February 14th, 1919, suffering from left-sided strangulated inguinal hernia.

History.—He had had a small left-sided hernia for some months. The day before admission to hospital, after a bout of coughing, the hernia came right down into the scrotum, causing pain and vomiting.

Condition on Admission.—He vomited a brownish inoffensive fluid; he did not seem particularly distressed and he had not an abdominal facies. The temperature was 99° and the pulse 66, good, regular, and steady. He had passed neither flatus nor faeces since the previous day. The abdomen was distended, not particularly tender, but he complained of some pain in the epigastric region. No visible peristalsis was observed. There was a large tender tumour occupying the left inguinal canal and the left side of the scrotum, and the skin of the scrotum at one spot was red and tender. There was no impulse in the mass on coughing; there was definite fluctuation and the tumour was resonant to percussion.

Operation.—The usual incision for the radical cure of hernia was made, but continued a little way on to the distended scrotum. On opening the sac a quantity of blood-stained and very foul fluid escaped. A large gangrenous mass of omentum clothing a loop of gangrenous large intestine was present. The internal abdominal ring was next enlarged, and both bowel and omentum pulled down until healthy tissue was reached. It was then found that the bowel was twisted on itself at the internal ring and that a true volvulus existed. Healthy bowel was pulled down with difficulty. The gangrenous omentum was removed and the gangrenous bowel resected, end-to-end anastomosis being performed. This done, the anastomosed bowel was returned and the radical cure of the hernia was completed, a small glove drain being left under the skin owing to the infected condition of the contents of the sac. The abdomen was then opened by a left pararectal incision, as I was not wholly satisfied as to the true state of affairs. It was then ascertained that the portion of the bowel dealt with was the pelvic colon, that the anastomosis was satisfactory, but that there was fluid present in the peritoneal cavity which was blood-stained but inoffensive. No peritoneal drain was employed.

Curiously enough the wounds healed by first intention, though the inguinal wound was red and looked like suppurating forty-eight hours after the operation. The glove drain was removed at the end of forty-eight hours and the stitches on the tenth day. The bowels moved on the fourth day, and the patient made an uninterrupted recovery.

THE MOVING-WATER BATH.

BY

LIEUT.-COLONEL A. D. WEBSTER, V.D., O.B.E., M.D.

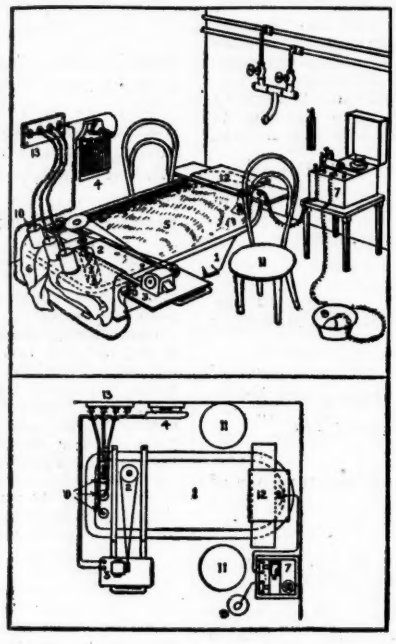
THE effects, both reflex and mechanical, of moving water are apparent in sea-bathing. The pressure and impact of the waves are stimulating, flushing the skin and calling into more or less activity many muscle groups. The surging and the spray below a waterfall have a similar action and reaction. These effects and results have been happily obtained and applied to many morbid conditions of wounded soldiers. It has been found that the muscles of the injured part are invigorated and their nerve connexions restored more rapidly under the influence of moving water. Earlier mobilization is secured.

The temperature of the water is a prime factor and its maintenance a necessity. This temperature need not be very high (cool 65° to 70°, tepid 80° to 85°, or warm 95° to 100° F.), but the effect of the moving water gives the impression through the skin nerves that the temperature is lower than it actually is.

The effect on the tissues resembles that produced when salt has been added to the water or carbonic acid gas generated. The moving water in the bath may be electrified for additional effect, the current being taken from a dry cell faradic or galvanic battery, or the sinusoidal current may be employed.

The Apparatus.

The apparatus is depicted in the drawings: it consists of (1) a bath suitable for the attachment of the apparatus; (2) a motor regulating the movement of the water from a simple wavy motion to one of great turbulence; (3) a heater by which the temperature of the water is maintained or varied as required; and (4) a battery for electrification of the water.



Action and Uses.

The combined effects of the moving water, of constant or varying temperature, and of the electricity are found to be most useful in speeding up the processes of restoration and repair in those cases in which the orthopaedic surgeon has done his part.

The surging water affords at a higher temperature the stimulation and invigoration of a bath at a lower degree. This effect is enhanced or varied by saline and other medication of the water, or by the addition of electricity.

The bath may be used—

1. For its hyperaemic effects.

2. For its restorative effect—(*a*) To limbs, recovering from severe muscle, bone, or nerve wounds. (*b*) To function, after orthopaedic surgery. (*c*) To rhythmic return, in the various neurasthenic types.

3. For its general regulating and invigorating effects—(*a*) In soldier's heart. (*b*) In V.D.H., by flushing the skin and muscular areas without fatigue. (*c*) In neurasthenia, gauged to the tolerance of the patient; a mild wavy motion of the water and the small galvanic or rapid sinusoidal current soothes the neurosis, and more natural sleep is the result. (*d*) In returning health an agreeable constitutional.

Index to Reference Numbers on Diagrams.

Primary Essential:
1. A bath tub.

Movement of Water:
2. Turbine propeller, with guard.
3. Motor to drive propeller.*
4. Resistance to regulate speed of motor.
5. Surging water in bath tub.
6. Partial waterproof cover to prevent splashing over by turbine propeller.

Electrification:
7. Ordinary galvanic and faradic dry-cell battery.
8. One pole electrode immersed in the moving water.
9. One portable pole by which connexion is made in various ways.

Heating:
10. One, two, or three heaters in operation as required to maintain or raise temperature of water.

General Accessories:
11. Chairs for patient receiving treatment of right or left arm.
12. Removable cork seat for patient receiving treatment of leg.
13. Wall connexions for electric motor and heaters.

Methods of Application.

The patient may sit on either chair for treatment of right or left arm, on removable seat at head of bath for treatment of leg, or lie as in ordinary bath, the portable pole (9) being suitably adapted to each case.

NOTE.—The water may be medicated as required. The moving-water bath is to be seen working at the premises of Messrs. Fraser, Walker and Co., 82, George Street, Edinburgh.

* The propeller may be operated by hand or other means.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A SPORADIC CASE OF ENCEPHALITIS LETHARGICA.

A WOMAN, aged 27, married, with one child, had been treated for fourteen days for slight deafness and noises in the left ear, and an occasional dizzy feeling on getting up in the morning. On the evening of the fourteenth day she was suddenly seized with severe pain at the back of the head, radiating down the cervical spine. The temperature was 102°, pulse 92. There was no vomiting; the pupils and knee-jerks were normal; neither Babinski's nor Kernig's sign was present. This condition remained till the morning of the fifth day, when she complained of diplopia and stiffness of the neck and back. There was an external strabismus of the right eye; the pupils reacted to light and accommodation but were slightly dilated and unequal, the left being more dilated than the right. The retraction of the muscles of the neck and back had increased. Kernig's sign was well marked on both sides.

Two days later the squint in the right eye had disappeared, but there was internal strabismus of the left eye, with dilatation of the pupil. The right pupil was normal, and both reacted to light and accommodation. The retraction of the neck remained. Babinski's sign was present on the right side, but not on the left. There were no sensory changes. This condition remained till the patient died on the tenth day. Two days before death there were spasmodic contractions of the muscles of the face and neck, with difficulty in swallowing. There was also incontinence of urine and faeces.

The temperature varied throughout from 102° to 104°, reaching 107° just before death, with a corresponding pulse. There was no vomiting nor paresis. The optic discs were normal throughout. The patient was in a lethargic condition from the second day onwards, but was not unconscious till the day before death. The fluid obtained by lumbar puncture on the fifth day was under increased pressure, but not turbid. No micro-organisms nor leucocytes were found on examination.

The diagnosis was confirmed by Sir Henry Davy of Exeter, who was asked to see the case. No other case of the kind had occurred in the district, nor had the patient left her home for some months.

Permission for a *post-mortem* examination could not be obtained.

E. R. CHAMBERS, M.R.C.S., L.R.C.P.

South Molton, North Devon.

NASAL OBSTRUCTION AND DENTAL DECAY.

DR. W. H. BOWEN, in the BRITISH MEDICAL JOURNAL of October 4th, 1919, notes that dental decay sometimes follows on mouth breathing. In 1917 I pointed out to an officer of low category that he was a mouth breather because of a deflected nasal septum. By practice he became a nasal breather, and was transformed from semi-invalidism to health.

I met this officer eighteen months later, and he assured me of his continued good health, and, pointing to his now well distended active nostrils, said "That is why." Then he added: "I saw the dentist to-day—the first time for two years—and asked him why I no longer had toothache in three of my remaining six teeth. The holes are big and the edges look black enough to give me lots of pain. The dentist examined my teeth and said 'The surfaces of these cavities are healed over.'" The officer then added: "Two of these teeth were worrying me a lot just about the time you showed me I was a mouth breather." He then said: "I was never out of the dentist's hands from my boyhood until the time I had the luck to meet you and got your tip. I have made no change in my life except I breathe through my nose."

CHAS. J. HILL AITKEN, Captain R.A.M.C.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH OF ENGLAND BRANCH.

THE first scientific meeting of the winter session was held at the College of Medicine, Newcastle-on-Tyne, on October 17th, and was a great success, the attendance numbering 110. Professor RUTHERFORD MORISON gave an address on cancer (with a demonstration on the epidiascope), which will subsequently be published in the JOURNAL. Professor J. A. MENZIES gave a demonstration on urine tests in relation to life assurance.

Cardio-diagnosis.

Professor DAVID DRUMMOND gave an address on the interpretation and significance of certain signs and symptoms of heart mischief.

He first dealt historically with the progress of cardiology and traced the chief advances to their sources. Discussing dilatation, Professor Drummond took exception to the practice of diagnosing every heart case presenting symptoms as cardiac dilatation, chiefly because the patient was necessarily alarmed by the diagnosis, and also because the term "dilatation" had little or no significance from the diagnostic and prognostic points of view, as proved by the fact that many cases of dilatation were purely functional and physiological. As a matter of fact doctors were too apt to confound dilatation with heart failure, whereas there were many cases of dilatation without symptoms of cardiac inefficiency, and, on the other hand, cases of serious heart failure without dilatation. The cause of dilatation was explained chiefly as the result of two factors—depressed tonicity, and increased pressure on a chamber during diastole. The diagnosis was not always easy. It was based upon detection of increase in the size of the heart—upwards above the third rib; to the right of the sternum; and outwards towards the left along the fifth and sixth interspaces, as the case might be. Towards the right pointed to dilatation of the right auricle, and towards the left either the right or left ventricle; if the former, the visible apex would probably be exhibited as a tucking-in movement with each systole, and if the left ventricle, an outward thrust. Pulsation in the veins of the neck was often present and might be a valuable sign, whilst auscultation also came to our aid. It was common to meet with a blowing and sometimes musical systolic bruit over the right ventricle and audible in the pulmonary area; but it must be recollected that the quality of loudness was no measure of the degree of dilatation; on the contrary, in cases of the most marked dilatation the murmur, if audible at all, might be short and low pitched, and easily missed. Reference was also made to the irregularities and other symptoms of dilatation, which were of the greatest diagnostic importance.

Next the diagnosis of hypertrophy was referred to, and exception was taken to the use of the term "compensation" as intending to indicate that with improvement in the patient's condition the bulk of the heart muscle invariably increased, as though the whole process was mechanical.

The more intelligent use of palpation as opposed to percussion was strongly advocated in diagnosing hypertrophy. The patient should always be examined lying down, and, as far as possible, after a short rest. Much valuable information could be gained from pressing the hands firmly over the heart, and especially at the end of a full expiration. In this way the heaving thrust of the hypertrophied heart could be felt. Mistakes were often made in cases of nervous excited hearts, as the systolic thrust simulated hypertrophy, but by a simple manœuvre the distinction could be made: whereas in genuine hypertrophy the thrust was best felt at the end of a prolonged expiration, in the nervous case, on the other hand, the heart seemed to recede from the pressing hands when the chest was emptied, the thrust being best marked as the patient drew a long breath. It was also very important to observe the position of the apex beat when the patient moved from his back on to his left side; in hypertrophy the apex would pass outwards and downwards into the interspace below, whereas in the case of the pseudo variety it travelled along the fifth interspace towards the left. Another common error was the diagnosis of hypertrophy in children with bruits and nervous action, for many young people were condemned on discovering that the apex was as far out as the nipple, or perhaps further, forgetting that the apex was naturally further out in children than adults. It was also apt to be forgotten that the heart travels outwards physiologically under excitement and even slight exertion.

Murmurs were next dealt with, and particular reference made to functional bruits, many of which might be said to be negligible. Unfortunately these murmurs caused hopeless confusion in the minds of practitioners, and this fact was made very evident during the war, when large numbers of eligible recruits were either totally rejected or classed C 3 on account of the discovery of a bruit. Of course, great advance had been made since then, and many had learnt to appraise functional bruits at their proper value, but there was still great room for improvement. Professor Drummond advocated the practice of examining patients lying down, and, if possible, after a period of rest, as this led in many cases to the cessation of the abnormal sound. It was also important to observe the behaviour of the murmur under the test of alteration in the position of the patient—standing, lying on the left side, etc. Then, again, drawing and holding a long breath sometimes caused the murmur to disappear; and, above all, firm pressure of the stethoscope on the chest at the site of maximum intensity very often had the same result.

Post-graduate Instruction.

At the conclusion of the scientific meeting a general meeting was held to discuss the desirability of having a more comprehensive scheme of post-graduate instruction. There was an attendance of sixty at this meeting, and the President of the Branch, Dr. ANDREW SMITH, was in the chair.

It was stated at the outset that the Newcastle-on-Tyne Medical School was very sympathetic towards post-graduate instruction, and that the school had attempted to form such classes in the summer of the present year. As, however, only a few doctors sent in their names the proposed scheme fell through; hence the medical school, while willing to co-operate, first required that a sufficient number of practitioners should indicate their intention of joining the proposed course of instruction before anything further was done.

After a free discussion, in which a number of practitioners joined, it was agreed that post-graduate instruction was absolutely necessary; and that the meetings should be held once a week throughout the winter, from 2.30 to 5.30 p.m. A member of the University of Durham College of Medicine Council who was present stated that the original committee who drafted the syllabus, etc., for the proposed course in July was still in existence.

It was agreed that a representative committee of general practitioners be formed to co-operate with the college committee in order to discuss the kind of teaching, draw up a syllabus, settle the day of weekly meeting, etc. The following were elected members of the committee: Drs. Dagger, Lachlan Fraser, Chalmers, Charles, McKellar, and G. E. Lloyd; with Dr. Andrew Smith, Dr. James Don, and Mr. R. J. Willan (convener).

Mr. Willan hopes that doctors interested in the matter will write to him expressing their views.

TWO years ago Dr. George W. Gay established at the Harvard Medical School a permanent fund, the income of which is to be expended annually for two or more lectures to the advanced classes on medical ethics and proper methods of conducting the business part of medical practice.

IN his thesis for the medical doctorate of Amsterdam Dr. Vos gives an interesting account of the shortcomings of the milk supply of that town, together with suggestions for its improvement from the hygienic point of view. Put briefly, they amount to this—that before it is distributed to the public all milk should be passed through central establishments, run on hygienic lines, in which large quantities of milk (say 70,000 litres) could be pasteurized and sent out for consumption daily. He would also form co-operative associations of dealers in milk, to ensure their assistance in the important work of securing a supply of nothing but pure milk.

Reports of Societies.

THE PRE-CANCEROUS UTERUS.

A meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine was held on October 9th, with the President, Mr. J. D. Malcolm, in the chair.

Dr. Gordon Ley read a paper on a case of indirect traumatic rupture of the uterus during pregnancy.

The patient was a primigravida, aged 22, in the twenty-first week of pregnancy. When standing on a station platform she felt faint, fell off the platform on to the metals, was picked up and sent home in a taxi. When seen by her doctor an hour later she was suffering from nervous shock, and complained of pain in the hypogastrium. The same evening the hypogastric pain had increased, the temperature was 97.6°, pulse 110. When seen by Dr. Gordon Ley, fourteen hours after the accident, the pulse was 140 and the patient complained of agonizing abdominal pain. The respirations were rapid and the patient restless; the abdomen was distended, rigid and tender, and in the left lumbar region was an ill-defined swelling, the size of an ostrich's egg. The uterus could not be felt. On vaginal examination the cervix was closed and the pouch of Douglas bulged slightly. A diagnosis of haemoperitoneum, probably from rupture of the uterus, was made. On opening the abdomen three or more pints of blood were found in the peritoneal cavity, the ovum was unruptured, and lay in the left kidney pouch. The uterus had contracted, and on its anterior wall was a laceration 3 in. long, running from the right cornu obliquely downwards to the left. The uterus was sutured with catgut in two layers and the abdomen closed. The patient made an uninterrupted recovery.

Dr. Ley commented upon the rarity of indirect traumatic rupture of the uterus during pregnancy.

A paper on the Pre-cancerous Uterus was read by the secretary, in the absence through illness of Dr. F. J. McCann, its author. Dr. McCann deplored the growing tendency to relegate the clinician to the background and to look to the laboratory alone for a solution of the cancer problem. He maintained that no real progress would be made until the clinician could seek out and identify pre-cancerous changes in organs as definite clinical entities. He then described two cases, one in which scrapings from a curettage for "fungous endometritis" were pronounced innocent by a high pathological authority, and the patient died of uterine cancer five years after; while in the other, a single woman aged 54, a cervical polypus, declared to be innocent, was removed, and she died eight years later from uterine cancer with secondary hepatic deposits. Dr. McCann emphasized the necessity of the study of after-results in this connexion, as, had he not seen both women again when the growths were too advanced for operation, he would have assumed that the previous treatment had effected a complete cure. As to the predisposing causes of uterine cancer, Dr. McCann regarded parity as the most important of these, and thence concluded that cervical injuries were factors. He considered gonorrhoeal endocervicitis, if persistent, to be also a predisposing factor. He suggested that as several years elapsed before a hot clay pipe produced cancer of the lip, or before the traumatism of childbirth produced cervical cancer, it was during these years that it was necessary to be on the look-out for pre-cancerous changes. He enumerated the changes before the menopause which, in his opinion, should give rise to suspicion. The list included erosions, fissures, chronic endocervicitis, and chronic hypertrophy of the cervix, and in the body fungous endometritis and chronic metritis; also the presence of intrauterine polypi. He recommended that erosions should be excised, and that fissures, even of long standing, should be repaired; he considered that a woman approaching the most common cancer age (46 to 53) from whose cervical canal a chronic discharge continued to flow, incurred the risk of subsequent development of cancer within the cervical canal. To eradicate the disease and to prevent the development of cancer he advised the performance of a supravaginal amputation of the cervix, or in certain circumstances of uterine enlargement and menstrual disturbances, a panhysterectomy with conservation of the ovaries. In such women he also recommended supravaginal amputation of the cervix for chronic hypertrophy. As to uterine conditions, he suggested hysterectomy in women nearing the menopause for marked fungous endometritis, and also for chronic metritis, as many patients suffering from these conditions subsequently became the victims of malignant disease. He differentiated between fibroid and adenomatous polypi, the presence of the latter being another indication for hysterectomy if occurring in the body. After the menopause Dr. McCann advocated a still wider application of radical operative measures to any uteri showing signs of pathological activity, and stated his conviction that many lives would be saved by such methods as he had indicated.

Dr. Lapthorn Smith considered Dr. McCann's paper valuable and timely; if it led to the earlier removal of part or the whole of the affected organ it would prove of great value. He stated that the mortality from cancer was increasing, that almost all were agreed that it commenced as a local disease, and he believed it to be due to a micro-organism which had found suitable feeding ground and multiplied rapidly. He regarded laceration of the cervix as a predisposing cause, and if it were the general practice to see that every lacerated cervix was repaired soon after the usual injury at the first confinement, and that union was obtained without scar tissue, there would be a considerable saving of lives. He believed that masses of scar tissue and hypertrophy of a portion of the vaginal cervix, resulting from lack of repair to the cervix in a woman near the menopause, might be termed a pre-cancerous condition, because it presented conditions favourable for the growth of cancer if infected. He advocated the treatment of such cases by amputation of the cervix.

Dr. Herbert Spencer was in complete disagreement with the author on two of his chief recommendations—excision of erosions on the plea that they give rise to cancer, and hysterectomy in cases of mucous polypi of the body. He pointed out that erosions were common in virgins, and often recovered under simple local applications. Cancer of the cervix was extremely rare in virgins, and even in nulliparae he did not think he had seen half a dozen cases. He had watched his own patients for many years after removal of corporal mucous polypi, and had not seen cancer develop in a single case. He regarded the author's recommendation on these two points as quite unjustified by any evidence he gave.

Dr. Williamson regarded the recognition of pre-cancerous conditions as a matter of the utmost importance. When a lesion, trivial in itself, was clearly shown to be a precursor of cancer a radical operation should be undertaken. But when they looked for the evidence upon which Dr. McCann based his drastic treatment there was none which a scientific society could accept. If Dr. McCann wished his deductions to be accepted he must prove (1) that women who grew adenomatous polypi were more prone to cancer than women who did not; (2) that an appreciable proportion of the women from whom adenomatous polypi were removed subsequently developed cancer. But Dr. McCann produced no evidence to prove either of these things. Dr. Williamson agreed that child-bearing was the predisposing cause of cancer of the cervix, because that rested on scientific proof, but he was by no means certain that lacerations were the exciting cause. The evidence pointed to chronic infection and continued irritation as more potent factors. In his opinion a lacerated cervix with ectropion and glandular overgrowth, the site of chronic infection, should be repaired in young women and amputated in women approaching the menopause.

Dr. Gibbons gathered that the gist of the paper was that if the uterus was not physiologically sound it was better to remove it lest cancer develop. He considered this a very sweeping recommendation which should not be allowed to pass unchallenged. Those present must have curetted hundreds of times for chronic endometritis, polypus, and like conditions, but because such uteri were for the time being pathological it seemed extraordinary advice to give, that they should be removed lest carcinoma develop, for in the majority of cases treatment put the uterus in a healthy state again. Before making such definite statements of pre-cancerous conditions there ought to be abundant statistics showing in how many cases carcinoma developed and how long elapsed before signs of malignancy occurred. He felt that he had formed the same impression as other speakers, and unless he had wrongly interpreted the paper he felt that it called for criticism.

Dr. Ellison believed that the paper was a plea for the earlier removal of uteri when, at or after the climacteric, a diagnosis of polypus, endometritis, or chronic metritis

was made. He said it was generally accepted that from the climacteric onwards the uterus should atrophy, and he had heard Dr. McCann state that any activity of the uterus after the climacteric should be considered as a danger signal on the road to cancer, and treated by removal of the uterus. He did not think that in such cases a diagnostic curettage should be relied on, as in early cases the malignant growth might have been missed by the curette.

The President expressed regret that Dr. McCann was not present to reply to the debate; the question raised was of the greatest importance, but it seemed that at present the existence of a definite pre-cancerous stage was not recognizable. He gathered that Dr. McCann advised the immediate treatment, by removal if necessary, of all conditions which might constitute an irritation of uterine tissue. The debate had shown the difference of opinion which existed amongst members concerning the importance as causes of cancer of some of the conditions which Dr. McCann regarded as pre-cancerous. Dr. McCann's argument appeared to be that cancer did not arise without a previous irritation, but in some cases there was no evidence that cancer of the breast or uterus had been preceded by any inflammatory process, or injury, or pre-cancerous state. It appeared to Mr. Malcolm that when a discharge or haemorrhage was present in patients after the menopause, without any apparent cause, hysterectomy was the proper treatment, because the risks of waiting in such cases were great; but he was not persuaded that in younger women such cases as fissure or chronic hypertrophy of the cervix required active treatment on the ground that they were liable to become cancerous.

Reviews.

BACTERIOLOGY AT LARGE.

Textbooks of bacteriology dealing with the special branches of this extensive science are many in number, and not rarely excellent in design and execution. To mention names in such a context as this would be invidious; but it is certain that nowadays students and practitioners of medicine have at their disposal at least half a dozen—and probably a dozen—British or American textbooks in which the bacteriology of surgery and medicine is adequately described. A similar state of affairs prevails, though in a less degree, in such kindred branches of the science as the bacteriology of brewing, of agriculture, of the dairy. In addition there are in various languages systematic treatises in which a more or less complete account of the whole science is given for the benefit of the more general student and the bookworm. In other words, it may be said that the bibliographical flora of bacteriology is vigorous and abundant. But, owing to the extent of the field it covers, the diversity of this flora is apt to be insufficiently appreciated by the students who take out a course of bacteriology as part of their professional education as medical men, brewers, scientific farmers, or experts in public health, as the case may be. The textbooks habitually placed in their hands deal only with the appropriate single branch of the larger science, and can hardly aim at giving a proper representation of bacteriology as a whole. In this way no more than a narrowed view of the science can result, and depth of knowledge without due breadth will be obtained.

For this reason we welcome the appearance of the second edition of *Microbiology*,[1] edited by Professor Marshall, and written by himself and five-and-twenty other contributors; it is a sound and comprehensive introduction to the science of bacteriology, designed for the use of students at colleges and technical institutions of all sorts. It covers a great deal of ground in a small compass—if such a feat be possible without a mixture of metaphors. It is divided into three parts. The first of these deals with the morphology and culture of microbes; the second with their physiology—here the student has a simple yet comprehensive account of the whole subject extending to nearly 250 pages. The rest of the book is given to applied microbiology, and describes the bacteriology of the air, water and sewage, the soil, milk and milk products, special industries, plants, insects, and, in a final division 200 pages long, the microbiology of the diseases of man and domestic animals. The text is clearly written, free from literary airs and graces, and full of the facts the student wants. Perhaps the best sections in it are those dealing with agricultural microbiology, a subject the importance of which is far better recognized in the United States of America than in our own country. The illustrations are less good than the text, and no scale of magnification is given in the majority of them. There appears to be no reference in the volume to Beijerinck's ultramicroscopic virus of the mosaic disease of tobacco plants, a disease of some commercial importance, it is said, nor to the recently described bacillus of venereal granuloma, to mention a couple of instances in which Professor Marshall's admirable textbook might perhaps be made even more complete than it is.

The book may be strongly recommended to all students in search of a comprehensive introduction to the science of microbiology. It fills a definite lacuna, and supplies a long-felt want.

[1] *Microbiology; a Textbook of Micro-organisms General and Applied.* Edited by C. E. Marshall, Professor of Microbiology and Director of Graduate School, Massachusetts Agricultural College. Second edition. London: J. and A. Churchill. 1917. (Post 8vo, pp. xxiv + 900; 186 illustrations. 12s. 6d. net.)

TRAUMATIC SHOCK AND TRAUMATIC TOXAEMIA.

Traumatic shock has been studied by surgeons—more particularly military surgeons—at any rate since the eighteenth century, and more recently for several decades by physiologists in their laboratories. Yet its pathogenesis still remains obscure, the more so, perhaps, because it is now shrouded in clouds of theories. Terms such as "nervous commotion," "depression of the vital processes," "arrest of innervation," "acidosis," "acapnia," "fatigue of the bulbar centres," "exhaustion of the vasomotor centres," "vaso-paralysis," "circulatory collapse," "stasis in the splanchnic area," and many others, have been freely used in explaining the origin of traumatic shock, but nothing like a final or satisfactory account of the way in which it arises has been given.

Professor Quénu of Paris has devoted much attention to the subject during the recent war, and has now expounded his own views and theory, to which we have at various times called attention, in a book[2] that should be of interest to surgeons and physiologists alike. Briefly, he holds that the *fons et origo* of traumatic shock lies in the wound itself, and is due to the absorption of protein substances from the injured tissues; in other words, shock is an intoxication by toxalbumins from the patient's wound. A full account of Professor Quénu's own contributions to the literature of the subject is given in his pages, together with summaries and criticisms of many recent papers on the subject by other authors. He defines traumatic shock as "a syndrome characterized by low arterial tension, a frequent and very feeble pulse, a low temperature, pallor and hypo-aesthesia of the skin, and shallow respiration." All are agreed that loss of blood is a factor strongly predisposing to shock, as are cold and nervous exhaustion. Professor Quénu lays particular stress on the severity of shock in cases where extensive or multiple lacerations or contusions of muscular tissue have taken place. He asserts that the occurrence of shock at the time of wounding is rare, and that it usually appears some hours later, unless, indeed, severe haemorrhage or extensive injuries to the peritoneum and the absorption of fluid therefrom have occurred; extensive laceration of the peripheral nerves, is not in itself a cause of the early appearance of traumatic shock. He applies the term "primary shock" to that which occurs within five or six hours as a rule, and "secondary shock" to that which occurs after that; it is commonly complicated by septic processes and absorption—a more complex and grave condition with which his book is not primarily concerned. It may be added that Professor Quénu provisionally distinguishes the following six varieties of shock: Shock by fatigue and cold, nervous shock (or shell shock), haemorrhagic shock, toxic shock (with which his book mainly deals), septic shock, and complex shock caused by the co-operation of two or more of the other varieties. The term "shock," as

[2] *La toxémie traumatique à syndrome dépressif (shock traumatique) dans les blessures de guerre.* By E. Quénu. Paris: F. Alcan. 1919. (Sup. roy. 8vo, pp. 142. Fr. 6.60.)

he remarks, is ill chosen, but one too firmly fixed in the literature for replacement; tentatively he suggests "the hypotensive syndrome" or Kirmisson's "traumatic toxaemia" as incomplete substitutes for it.

In debating the nature of the toxic substances causing shock Professor Quénu, as he admits, enters the domain of speculation. In 1917 he described them as "toxalbumins"; he now thinks that they may be the products of autolysis of the injured muscles, and that there is evidence to show that the amount of non-protein nitrogen is increased in the circulating blood of patients with traumatic shock, as is the proportion of ketonic bodies in their urine, which may be evidence of lessened activity on the part of the liver.

The treatment of traumatic shock, to which he gives the last and longest chapter of his book, is still, he says, empirical and far from satisfactory. For the most part it consists in the application of warmth and endeavours to arrest haemorrhage and raise the lowered arterial blood pressure. He highly recommends the intravenous injection of about a drachm of camphorated oil, which, it is said, had not given rise to signs of embolism. While he holds that the transfusion of blood is excellent in cases with severe anaemia, he considers it to be of little use in traumatic shock pure and simple. He advises operation at the earliest possible moment in cases in which shock is likely to supervene, and when it has supervened, operation (particularly amputation) should not for that reason be postponed in the hope that the patient will rally. Professor Quénu has hopes, at present unrealized, that in the future effective antitoxins for the poisons producing traumatic shock will be discovered.

TEXTBOOKS OF BIOLOGY.

THE eighth edition of MARSHALL'S well known *Junior Course of Practical Zoology*,[3] a book familiar to many generations of medical students as the laboratory companion of their zoological studies, has been revised by Professor GAMBLE of Birmingham. Its successive editors have succeeded in keeping this excellent volume small and in preserving the characteristics of its earliest editions unimpaired. It may be warmly recommended to the attention of the students of medicine and morphology, for whom it is designed.

The third edition of DAVISON'S *Mammalian Anatomy, with Special Reference to the Cat*,[4] revised, alas! in accordance with the Basle anatomical nomenclature, presents the student with a clear and concise elementary manual of the subject, well illustrated and brought up to date. It should be of service to a large body of students in the laboratory and out of it.

BORRADAILE'S *Manual of Elementary Zoology*,[5] now in its second edition, is a full and well written manual, suited to the needs of students preferring a broadly designed account of the subject and not afraid of knowing more than their examiners may ask them. It emphasizes the unity of life, a point often overlooked by elementary students confronted with the apparent diversity of the many types of living creatures presented for their dissection and study. The book is well illustrated, and should be widely read by medical and morphological students.

Professor SMALLWOOD'S *Textbook of Biology*[6] gives a clear but inevitably somewhat superficial account of the subject designed to meet the needs of students in general, medical and technical courses. It is very well illustrated; the author is perhaps more successful in presenting the general aspects of the science than in his description of detail.

[3] *A Junior Course of Practical Zoology.* By the late A. Milnes Marshall, M.D., D.Sc., M.A., F.R.S., and the late C. Herbert Hurst, Ph.D. Eighth edition, revised by F. W. Gamble, D.Sc., F.R.S. London: John Murray. 1918. (Post 8vo, pp. xxxvi + 515; 94 figures. 12s. net.)

[4] *Mammalian Anatomy, with Special Reference to the Cat.* By Alvin Davison, Ph.D., Ex-Fellow of Princeton University, etc. Third edition, revised by Frank A. Stromsten, D.Sc. Princeton. Philadelphia: P. Blakiston's Son and Co. 1918. (Post 8vo, pp. 243; 115 figures.)

[5] *A Manual of Elementary Zoology.* By L. A. Borradaile, M.A. Second edition. London: H. Frowde, and Hodder and Stoughton. 1918. (Cr. 8vo, pp. xiv + 616; 419 figures. 16s. net.)

[6] *A Textbook of Biology.* By William Martin Smallwood, Ph.D. Harvard, Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University. Third edition, enlarged and revised. Philadelphia and New York: Lea and Febiger. London: Baillière, Tindall, and Cox. 1918. (Roy. 8vo, pp. xiv + 306; 235 figures, 8 coloured plates. 10s. 6d. net.)

NOTES ON BOOKS.

DR. A. F. TYLER'S short treatise entitled *Roentgenotherapy*[7] is intended to be a reliable textbook for the beginner. It is divided into two main portions: the first deals exclusively with apparatus and technique; the second consists of a short account of numerous cases of various descriptions, profusely illustrated with the usual photographs taken before and after treatment. This part is practically merely a picture gallery, but it serves in some measure to indicate and visualize the scope and the results of *x*-ray treatment. The description of apparatus is good; the use of the interruptless transformer and the Coolidge tube, together with the methods of protection and filtration, are clearly set out; there is also a useful account of the various methods of estimating dosage. The author divides his actual treatment into the superficial and deep therapy, and gives lists of diseases for which the one or the other is suitable; details of exact condition of tube, filtration and dosage are accurately recorded. The book is simply written and the directions are given plainly. A beginner who is using, or is going to use, the combination of an interruptless transformer and Coolidge tube should find it a useful guide.

Dr. DOBBIE'S translation (from the Swedish) of KLEEN'S massive textbook on *Massage and Medical Gymnastics*[8] provides a very complete account, both theoretical and practical, of a somewhat neglected branch of therapeutics. Here the reader will find how medical, surgical, and gynaecological cases may gain benefit from the treatment, and also how various diseases of the eye, nose, throat and ear may profit thereby. The author has a wide acquaintance with the literature of the subject, and shows a soundly critical spirit in his quotations from it. The translation has been well done; the book forms stimulating reading.

PROFESSOR AUSTIN'S little book on *Induction Coils in Theory and Practice*[9] gives a short and adequate account of the subject with which it deals, demanding only a moderate knowledge of mathematics. It is not specially designed for the use of *x*-ray workers, but contains a quantity of information that should be of service to them; primarily the book is one for students of elementary electricity.

Sir STCLAIR THOMSON'S presidential address[10] on Dr. J. C. Lettsom and the foundation of the Medical Society of London is now printed in a pamphlet giving a most interesting glimpse of medical life and social activity in Georgian days. Lettsom was born in 1744, and died in 1815; during his last forty years he worked and warmed both hands before the fire of life with the greatest vigour. This short but sympathetic account of his life should interest a wide circle of medical readers and laymen.

Mr. W. PERRETT'S *Some Questions of Phonetic Theory*, Chapter V,[11] is a pamphlet in which he attacks and seeks to confute Helmholtz's view that the cochlea constitutes a series of resonators; he holds that there is no resonance in the internal ear. The book should be of interest to physiologists and musicians.

We have received a copy of the forty-third volume of the *Transactions of the American Gynecological Society*,[12] for the year 1918. It contains the lists of officers and Fellows and the regulations usual in such annual volumes, and a number of interesting papers affording good evidence of the scientific activity of American gynaecologists.

[7] *Roentgenotherapy.* By A. F. Tyler, B.Sc., M.D., Professor of Clinical Roentgenology, John A. Creighton Medical College, London: Henry Kimpton. 1919. (Med. 8vo, pp. 162; 111 figures; 13s. net.)

[8] *Massage and Medical Gymnastics.* By Emil A. G. Kleen. Translated by Mina L. Dobbie, M.D., B.Ch. London: J. and A. Churchill. 1918. (Roy. 8vo, pp. xiv+618; 182 figures. 21s. net.)

[9] *Induction Coils in Theory and Practice.* By Professor F. E. Austin, E.E., Hanover, N.H., United States of America. London: E. and F. N. Spon, Ltd. 1919. (Demy 8vo, pp. 64; 45 figures. 5s. net; 5s. 3d. post free in the United Kingdom.)

[10] *John Coakley Lettsom and the Foundation of the Medical Society.* Being the Presidential Address delivered before the Medical Society of London on October 8th, 1917. By Sir StClair Thomson, M.D., F.R.C.P.Lond., F.R.C.S.Eng. London: Harrison and Sons. (Demy 8vo, pp. 63; illustrated. 2s. 6d. net.)

[11] *Some Questions of Phonetic Theory.* Chapter V. The Perception of Sound. By Wilfrid Perrett. Cambridge: W. Heffer and Sons, Ltd. 1919. (Post 8vo, pp. 39. 2s. net.)

[12] *Transactions of the American Gynecological Society.* Vol. 43. For the year 1918. Philadelphia: Wm. J. Dornan. 1918. (Med. 8vo, pp. lx + 480; illustrated.)

THE LONDON SCHOOL OF TROPICAL MEDICINE.

ANNUAL SCHOOL DINNER.

THE annual school dinner of the London School of Tropical Medicine was held at Princes Restaurant, Piccadilly, on October 16th. Dr. ANDREW BALFOUR, C.B., C.M.G., presided, and the company, which numbered nearly one hundred, included not only past and present students, but also several merchants and bankers interested in Eastern trade.

Dr. ANDREW BALFOUR, in proposing the toast of "The London School of Tropical Medicine," said that it owed its origin to that far-seeing statesman, Mr. Joseph Chamberlain; from very small beginnings it had now attained a respectable stature. During the present session forty-four students had been enrolled. In 1902 the speaker had the good fortune to be appointed director of the laboratory which formed Mr. Wellcome's gift to the Sudan Government; having read Sir Patrick Manson's manual, and seen something of the so-called tropical diseases—malaria and dysentery—in South Africa, he imagined that he knew something about tropical medicine. Fortunately someone gave him an introduction to Sir Patrick, who very soon asked him if he had undertaken a course of study in the London School of Tropical Medicine. In a short time he realized that he could do no better than follow the implied advice, and accordingly he became a student, and had never repented it. By that time the seed which Sir Patrick Manson had sown had become a sapling, and was bearing promise of a tree, to which the old birds of the tropical world were beginning to flock. A good teaching foundation was being laid even then, and any man keen to learn got good instruction. That research must ever be the handmaiden of education was a truth recognized by those responsible for the welfare of the institution, and especially by Sir Patrick Manson. It was the custom in olden times to emblazon on shields the famous deeds of men and cities. If such an escutcheon were conferred upon the school what would be seen upon it? In one corner there would be a stretch of the dreary landscape which characterized part of that aforetime deadly area, the Roman Campagna, dim and faint in the evening light. Set in it would be a little hut, so constructed that it was mosquito-proof, and peering out from behind the wire mesh they would recognize the well-known features of Dr. Louis Sambon and Dr. George Low. The panel would not be complete without an inset showing an infected anopheles rampant, biting those fearless volunteers, the late Dr. Thurburn Manson, who unhappily was early lost to science, and Mr. George Warren, still a familiar figure at the school. Adjoining this panel there would be a space for depicting the beauties of those pearls of the Antilles, the Leeward Islands, and again Dr. Low would be seen, this time exploring the mysteries of filariasis. Then the scene changed, and for a background there would be the sky of Africa and the varied flora of Uganda. Once again Dr. Low's visage would be figured upon it, and along with him Dr. Castellani and Dr. C. Christy. There would be tsetse flies on this panel, and trypanosomes, doubtless stained vividly with the Leishman stain. Yet other panels would be devoted to Dr. Leiper hunting cyclops on the West Coast, and making notable discoveries regarding guinea-worm both abroad and at home, and to the same observer traversing half Africa and adding greatly to our helminthological knowledge. Later he would be found investigating the relation of ankylostomes to wells, and discovering that a certain biting fly formed the intermediate host of *Filaria loa*. A section would be given to Dr. Wenyon, journeying hither and thither on the Nile, extending our knowledge of protozoology, and eventually invading Mesopotamia, before the British army did so, in an endeavour to find how oriental sore was transmitted. Dr. Bayon would be found investigating sleeping sickness, and Dr. Manson-Bahr at work both in Fiji and Ceylon, clearing up points relating to filariasis, dysentery, and sprue. Again would be seen the ubiquitous Dr. Leiper, this time accompanied by Dr. Atkinson, roaming through Chinese rice fields in search of trematodes, and incidentally confirming the work of the Japanese on the schistosome of the Far East. Yet another division of the shield would be bright with the green of the Egyptian delta, and seamed by representations of canals and irrigation channels. Here also would be found Dr. Leiper and his colleagues, Dr. Gordon Thomson and the late Dr. Cockin, groping both for water snails and the truth which lay hidden in those molluscs, a search which ended triumphantly, and settled once for all the vexed question of the life-history of the human schistosomes. A blank space upon the shield would soon be filled; the background alone could now be painted. It was that of atolls and cocoanut trees, a beautiful picture of the South Pacific, and it would soon have a representation, let them hope, of Dr. O'Connor adding another chapter to the somewhat scanty knowledge of human filariasis. Mere quarterings were, therefore, of no use for such a shield as that of the London School of Tropical Medicine. It was covered with devices which told of good work accomplished for science, for the empire, and for the benefit of mankind. Nor must they forget that some portion of it had to be reserved for the deeds and discoveries of those who, working on their own or for other institutions, yet claimed the school as their Alma Mater. Those who followed the history of tropical medicine would know that the list was a goodly one. He would only refer to the late Dr. Catto's discovery of *S. japonicum*, and the work of Dr. Christopherson of Khartoum on the cure of bilharziosis by antimony given intravenously. Surely there was no more romantic and honourable coat of arms than that which Sir Patrick Manson's creation could now boast!

One of the great disadvantages of the school had been that of topographical position. In some ways the site was wisely chosen, for such clinical material could not have been obtained save at the docks, whither came ships bearing not only merchandise but also diseases—Chinamen with beri-beri, lascars with ankylostomiasis, and so on. But from the point of view of easy access for the student and teacher it was disadvantageous. The way thither might be described in the terms which a Scottish elder applied to a heretical brother, as like a November day, short, dark, and dirty, save that in consumption of time the journey from Fenchurch Street was by no means short. The Red Cross, being anxious to do something for tropical medicine, had recently contributed £100,000 for the establishment of a hospital at what was now known as the Endsleigh Palace Hotel (Gordon Street, W.C.). This should be a place where not only medical men, but any sanitary inspector destined for the tropics could be trained in the elements of his work. Dr. Sambon and he had dreamed dreams of a floating school, but unless some philanthropist were forthcoming, he feared that that was impracticable at present, though in any case travelling scholarships might be instituted. A social club was another contemplated venture. The school had a great future; this country, which was the centre of the British Empire, was in a sense the clearing-house of the tropics. He hoped that those who came after would keep the torch of Patrick Manson alight, and also that successive rulers at the Colonial Office would view the London School of Tropical Medicine with something of the late Mr. Chamberlain's understanding.

Sir HAVELOCK CHARLES, whose name was coupled with the toast, said that the school was started by a man who exemplified Lord Fisher's dictum that the happiness of life was in its struggle, its continual fight. Sir Patrick Manson had to struggle long before the success of the school was established, but it could now be seen that it would have been a disaster had he not persevered. Sir Patrick established the school on the only site he could get; but the site had its disadvantages, and for some time it had been the endeavour of certain of those attached to the school to secure another less remote site. The site the school now had was second to none. The lower part of the building would be assigned to the school and the upper part to the hospital, thus providing what was absolutely essential to every tropical school—a combination of work in the laboratory and work in the ward. It might seem that in one respect the school would be less fortunately placed than at the Albert Dock Hospital, where the sick came directly from the ships. But the Secretary of State for India had promised that every employee of the Government of India—from the engine driver to the commissioner—sent home by the medical board should be entitled to go to this hosptal for advice, and it was hoped that the Colonial Office might be induced to follow the same policy. The quickening spirit of the hospital was in its staff, not in its building. He hoped that the

staff in the future would be increased. Every lecturer would have an understudy, and both lecturer and understudy would be properly remunerated. The school had been an example, and similar institutions had been established or were in course of establishment in various quarters of the globe. In India two schools were now in working order, one at Calcutta and the other at Bombay. A large research institute was also to be established, with a million sterling as capital. The school was much indebted to its secretary, Mr. Michelli, and to Sir Perceval Nairne. Finally, he used his authority as dean to call upon Sir Patrick Manson, whose name was not on the toast list.

Sir Patrick Manson said that in enumerating the deeds done by the teachers and scholars of the school, the chairman had omitted to state what he himself had accomplished. He classed Dr. Balfour along with Sir Samuel Baker and one or two others as among the makers of modern Egypt, doing mightier works than Moses ever did in the same region. There was no more brilliant exponent of tropical sanitation than Dr. Balfour. He had made important discoveries himself, and had stimulated others to discover. The speaker supported the suggestion for the formation of a club in connexion with the school. He rejoiced in the decision of the Government of India to send many patients to the hospital for treatment, and he trusted that the Colonial Office, which he was sure was alive to the importance of the school, would follow this example.

Captain A. W. Clarke, C.B.E., Deputy Chairman of the Seamen's Hospital Society, proposed the health of the guests. Tropical medicine, he said, was more than a branch of medical science; it was one of the most important pillars of imperial administration. Perhaps something of the debt the empire owed to India, British Africa, and far away Fiji for their loyalty in the war might be repaid by ensuring to them the results of the continued and enlarging study of tropical medicine in this country. The work of men like Manson, Ross, Leiper, and many others found its full fruition in little villages in Nigeria and up-country dispensaries in India, although the people who benefited had most likely never heard the names of the distinguished scientists in question.

Sir Charles McLeod, in responding, said that he felt quite sure that there would be no difficulty in securing funds to put the institution on the highest plane of efficiency. He had been interested in the building of a hospital at Port Said, and from his experience would like to suggest that Port Said would be a place for the London School of Tropical Medicine to set up a laboratory station. He personally—and he was sure many other guests that evening connected with the East—would help on the financial side to bring that matter to a head.

Sir James Cantlie, with his customary flow of happy phrases, proposed the health of the chairman, and Dr. Andrew Balfour, in responding, said that he attributed any success which attended his work in the Sudan to three factors: first, to his training at the London School of Tropical Medicine; secondly, to three individuals, Sir Reginald Wingate, late Governor-General of the Sudan, Mr. James Currie, late Director of Gordon College, and Mr. Wellcome, the donor of the laboratory which he had directed; thirdly, to the loyal support of an able staff, including certain officers of the Royal Army Medical Corps. He proposed a toast not on the list—namely, the rank and file of tropical workers, including the laboratory assistants—most important officials, and too often forgotten.

Dr. H. B. Newham, C.M.G., in responding, said that if commanding officers in the combatant service had been able to speak in terms of greatest respect for their subordinates, the medical branch could also bear witness to the sound work done for them by their helpers. He had been struck in particular, while himself a patient, with the honest and serious work done by the hospital orderlies. The same thing was true of laboratory assistants. As a whole, they were poorly paid; and it was very desirable, for the success of the work as a whole, that they should be satisfactorily recompensed.

The College of Physicians of Philadelphia announces that it is prepared to receive on or before May 1st, 1920, essays which may be on any subject in medicine, but unpublished, in competition for the Alvarenga prize. The prize is of the value of 250 dollars.

CONFERENCE OF THE SOCIETY FOR THE STUDY OF INEBRIETY.

A conference of the Society for the Study of Inebriety was held in London on October 14th, under the presidency of Sir Alfred Pearce Gould. In addition to the presidential address and the Norman Kerr Memorial Lecture, two discussions took place—one on the scientific basis of drink control and the other on alcohol in relation to recreation, refreshment, and public-houses.

The Scientific Basis of Drink Control.

Lord D'Abernon, who opened the first of these discussions, said that in addressing the society three years previously he had commented on the insufficiency of trustworthy data regarding the action of alcohol on the human body. This reproach had to a great extent been removed since then, in particular by Dr. E. Mellanby's researches, carried out at the instance of the advisory committee of the Central Control Board, on the conditions capable of modifying the intoxicating action of alcohol. The results of these and some cognate studies by other investigators were clear enough to indicate the main principles to be followed under any scientifically sound system of liquor control. The use of beverages of excessive alcoholic strength had to be discouraged, and the drinking of alcohol on an empty stomach had to be avoided, as had also continuous or frequently repeated drinking. The governing principles of control on a physiological basis were thus dilution (including the important kind of dilution effected by food) and discontinuity of drinking hours. He described Dr. Mellanby's experiments to determine the alcoholic content of the blood in dogs after the administration of identical doses of the drug in dilute and in concentrated solutions; these experiments showed that with dilute solutions the maximum level of alcohol in the blood was lower and more slowly reached than was the case when the drug was taken in concentrated form. Dr. Mellanby had also shown that when alcohol was taken in the form of beer its intoxicating action decreased to a much greater extent than could be explained by the mere fact of dilution, so that the presence in beer of some retarding or correcting element must be surmised. Alcohol taken with food was absorbed far more slowly and the level which it reached in the blood was much lower than when taken on an empty stomach. The theorist might argue from these conclusions that distilled spirits should be prohibited unless diluted to the strength of beer, and that no alcohol should be served except for consumption with meals; certainly on physiological grounds there was justification for the prohibition of the cocktail, for it combined the objectionable features of highly concentrated alcohol and worst time of consumption—namely, when the stomach was empty. Violent applications of theoretical principle might, however, prove in practice too drastic an interference with personal taste and established custom, and it might be more statesmanlike to pursue the objective more gradually and quietly. Discontinuity of drinking hours as established by the Central Control Board aimed at preventing or minimizing the risk of cumulative doses in the body. The association of the two complementary principles of dilution of liquor and curtailment of hours was essential to any scientifically sound system of drink control. The decrease in intemperance since 1915, as measured by the statistics of arrests and alcoholic mortality, was far greater than the reduction in the consumption of alcoholic beverages, and his inference was that the question, "How the nation drinks" was more important than the question "How much it drinks."

Dr. H. M. Vernon (Oxford) followed with a description of some tests which he had carried out upon himself, speed and accuracy in typewriting being taken as the measure of nervous efficiency. He produced curves showing a sharp rise in the number of errors within a quarter of an hour of taking 60 c.cm. of alcohol in the form of 20 per cent. whisky; in less than half an hour the mistakes had risen to some six times the number which occurred under normal conditions. The same kind of result was produced with 5 per cent. whisky, but in the case of 3 per cent. beer and cider the increase in the number of errors was slow, and even 90 c.cm. of alcohol

taken in these forms brought the line nowhere near intoxication level. He thought such liquors might be regarded as practically non-intoxicating.

Dr. Robert Simpson (Plymouth) urged that the rate of absorption would not reduce to any extent the ultimate effects of the alcohol. Whether a drug was given in a concentrated form rapidly or in a more regulated form slowly, the effect at the last would be the same. He maintained that alcohol taken in small quantities at regulated intervals, even though there might be food in the stomach, would, if long enough repeated, have the same physiological effect as the violent potation.

Other speakers in a rather animated discussion were a prohibitionist from the United States and one or two British prohibitionists, who fell foul of Lord D'Abernon, as well as a brewer, who gave him eulogy. An appeal to medical men was made by Dr. W. Collier (Oxford), who, after referring to the memorial on the subject which the British Medical Association had adopted, begged medical men to take a more active part in informing the public on the drinking habit in relation to physiology. Lord D'Abernon endorsed this appeal. In other countries, notably in France, the medical profession had given a direct lead to the public, pointing out what it considered to be the most reasonable and innocuous way of consuming alcohol. During next year the country would have to settle upon either a permanent or a temporary drink policy, and the medical profession should be prepared to give a considered opinion.

The Norman Kerr Memorial Lecture.

Dr. Mary Scharlieb, C.B.E., delivered the eighth Norman Kerr Lecture before the society in the evening. Her subject, as announced, was the relation of alcohol and alcoholism to maternity and child welfare, but a large part of the lecture consisted of a general historical survey of liquor control during the war, and the effect which the national awakening to the importance of sobriety had upon the military issue. The war at first encouraged alcoholism among women, but by July, 1917, a big decline in female drunkenness was reached, although women were entering industry in large numbers. This change was brought about by the action of the Central Board of Control and later by that of the Food Controller. This action took the form of restrictive measures applied to the sale of alcohol, constructive measures to increase opportunities for non-alcoholic refreshment, and (by the Food Controller) restrictions on output and the release from bond of alcoholic liquors. No doubt each sex, said Mrs. Scharlieb, had its own special temptation in addition to those common to both, and the periods of pregnancy, lactation, and the menopause made very special demands on the resolution and fortitude of many women, but here again the best defence was of the constructive order. It was the duty of the community to make adequate provision for the comfort and health of the expectant and the nursing mother. In speaking of the problem of sobriety in times of peace, the lecturer made the last of the many appeals which had been addressed during the day to the medical profession. The members of that profession, she declared, must come out into the open and let all the world know that they were true to the teaching of physiology and pathology. They must teach their patients that alcohol was not a food; that, habitually used, it served no useful purpose in the body; that it was sometimes, but not often, indicated as a remedy, and, when so used, must be given with the same precautions and sense of responsibility as any other remedy. On the pathological side, they should show that they recognized the excessive or improper use of alcohol as one of the chief causes of ill health, premature mortality, inefficiency, and social degradation. They should also recognize and teach that alcoholism prepared the way, made more deadly the attack, and interfered with the treatment of other diseases, especially the venereal diseases, the acute infections, and the degeneration of organs. The medical profession should be honest in giving death and sickness certificates, and not hide the fact of alcoholism under its secondary results, such as gastritis and cirrhosis of the liver. It was to the medical profession that the public looked for guidance in these matters. Mrs. Scharlieb concluded by advocating the nationalization of the liquor trade, a view which did not commend itself to a section of her large audience.

THE FUTURE OF POST-GRADUATE EDUCATION.

The opening address of the session at the Post-Graduate College, West London Hospital, was delivered on October 16th by Sir George Newman, K.C.B., M.D., chief medical officer of the Ministry of Health.

He congratulated the college on the post-graduate courses it had maintained for something like twenty-five years. It had the advantage of being organically connected with a hospital; many years ago he had participated in Sir Jonathan Hutchinson's scheme, both at the Polyclinic and at King's College; the reason why that scheme was not a complete success was because it was centralized in an institution which was not a hospital. The courses at the West London Hospital included teaching in the ward, special clinics, and practice in the laboratory, and he did not see how any post-graduate course could be considered complete or even satisfactory which did not embody these three provisions. While medical education in England was ahead of medical education in America and Germany, it was only just ahead, and the reason for the close rivalry of these other countries was to be found to a great extent in their system of interne appointments after qualification. At the West London Hospital a system did obtain whereby post-graduates might be appointed as clinical assistants for three or six months, acquiring the full advantage of hospital practice and clinical instruction.

Necessity for Graduate Teaching.

The overcrowded state of the medical curriculum rendered post-graduate teaching necessary. The curriculum should be lightened at both ends, first by requiring that the student who entered the medical school should have already received instruction in the preliminary sciences at the secondary school, and then, on his leaving the medical school, by loading on to a post-graduate course three or four specialities, over and above his ordinary medicine and surgery. Post-graduate teaching was also rendered more necessary by the continual advance of medicine. New methods were always arising, as in the treatment of venereal diseases, and new applications, such as those of orthopaedic surgery to a large group of maladies and malformations. Again, there was the integration of preventive medicine into ordinary medicine. This brought with it new work for which the fifth-year students, until two or three years ago, were not equipped. The introduction of the preventive spirit into medicine rendered post-graduate teaching all the more important. Every practitioner also required revision of ideas and methods, even though he might not know that he required it. It was to be feared that the bulk of practitioners in the country did not greatly desire to attend such courses; they had become somewhat set in their habits and modes of thought. Further, as medicine advanced it became clear that more "team work" was necessary, and this necessity also had not, until recently been brought to the attention of the fifth and sixth year men. Finally, owing to the demands of public opinion, the sphere of medicine in relation to the State was ever enlarging. Whether it was right or wrong for the State to meddle in medicine or for medicine to be the servant of the State—and there was much to be said on one side and something to be said on the other—the intervention of medicine in government, local and central alike, materially affected the whole question of medical practice. School medical service, insurance service, tuberculosis and venereal services, the emergence of the Ministry of Health—all these things meant that the practitioner must have a rather different social attachment from that which he had had in the past.

He held that the Government should never so bring its influence to bear upon affairs as to depress the individuality of the practitioner or to remove his opportunity of rendering his peculiar personal service. He had sometimes been criticized for appearing to exclude the practitioner from certain Government services, and it was true that he thought the practitioner should not waste his time over a certain amount of Government work. The inspection of school children, for example, should be by Government authority; treatment, as far as possible, should remain the province of the private practitioner.

For all these reasons the time was coming when some kind of training after qualification would be regarded as

a necessity for every medical graduate. The essentials of a post-graduate course were, first, clinical practice; then certain specialities, such as ear, nose, throat, women's and children's diseases; and thirdly, laboratory work, for it was important that the practitioner should be able to understand the main facts elicited by the laboratory, and be able to submit his specimens in a competent way. A great many specimens sent up from the country to the central laboratories were worthless, and the information supplied to the pathologist so meagre that it was impossible for him to aid the practitioner in anything beyond the mere outlines of diagnosis. A place should be found in the post-graduate course for instruction in the early diagnosis of disease, particularly those three or four diseases which were the main course of invalidity. The returns of sickness benefit under the Insurance Act (taking a three-year average) revealed that 270,000 working years were lost per annum through absence from work on account of sickness, and this did not include maternity, sanatorium, or disablement benefit. Preventive medicine had not only to do with drains and infectious diseases, but with the great body of preventable or largely preventable disease. He had worked out the records of five typical insurance practices in as many cities in order to discover what the maladies were which caused this great invalidity. Briefly, they were dyspepsia, bronchitis, and all sorts of minor maladies. The burden of invalidity due to dyspepsia was prodigious. Would it not be well for post-graduates and practitioners generally to have more assistance in arriving at the early diagnosis of alimentary conditions? The same thing applied to early mental aberrations, to the applications of orthopaedics to simple malformations, to the early stages of disease of the eyes, and of tuberculosis, particularly among children, and possibly also to war neuroses.

The Need for State Aid.

In all the medical schools the installation of a system of proper, efficient, and continuous post-graduate instruction should be made a matter of grant. A medical school should not receive from the State substantial grants year by year unless there was provision—separate from that assigned to the medical students proper—for the men who had passed their final examinations. Post-graduate teaching should be given at the hospital, made as accessible as possible, and at a reasonable fee. A great many hospitals all over the country could be used. In every county, cottage, and isolation hospital it should be possible for the practitioners of the vicinity to obtain further clinical practice and experience. It had been found, particularly in London, that the consultant on the hospital staff was often able to give only the residuum of his life and strength to hospital teaching. Some method must be devised by which it would be made to pay him to give the major part of his energies to hospital work and the smaller part to private practice. This would not cover all consultants, many of whom would continue to prefer their lucrative practice; but the man who elected to give his main strength to teaching should be adequately and continuously paid, so that it was worth his while to give to his teaching something more than a casual attention. In the new clinical units which would be formed out of this arrangement some provision for post-graduate teaching should be included. It was evident also that in various parts of the country a system of hospitals and clinics for insurance and other practice would be established. The country had no hospital system; it had hospitals but no co-ordination of hospitals, and, although voluntaryism in hospitals should be retained as a valuable thing, a good deal of organizing and unifying was necessary in order to bring about a hospital and clinical system. Here would be a golden opportunity for the introduction of post-graduate courses. In every county in time there would be a network of hospitals and clinics, in association with which a thoroughly sound system of post-graduate teaching might be constructed. He believed that any such post-graduate undertaking would have to be built on what he thought were the entirely admirable lines of the course at the Post-Graduate College of the West London Hospital.

THE large silver Carnegie medal for heroism has been awarded to Captain Ottavio Calamita, a medical officer of the Italian army, for saving a soldier from drowning in the dangerous canal of Mirano at the risk of his own life.

MOTOR NOTES FOR MEDICAL MEN.

By H. MASSAC BUIST.

FURTHER FEATURES OF THE PARIS SHOW.

THE Paris Motor Show no doubt gave the medical man the impression that post-war motoring is for rich men only, so studiously had the French firms, old and new, avoided an attempt to produce a cheap car, alleging that it is impossible in Europe in this transition stage owing to the depreciated value of currency whereby the raw materials of production have to be imported under unfavourable terms, by reason of the high shipping rates, and because the labour situation is so disheartenigly unstable. Nevertheless, there are not lacking signs that there is a sufficient proportion of firms with ideas and enterprise presently to compel those who will not break new ground either to retire from the industry or to show more pluck. Though all established French and Italian houses were represented at the Exhibition, which closed on October 19th, there is really no justification for occupying space by describing the bulk of their exhibits, which followed purely conventional pre-war practice. From a feature introduced here or there, such as the partial use of aluminium for engine details, it would appear that even these conservative ones have tried to break away; but that, for the rest, they have got so stale, possibly as the result of war exhaustion, that they are barren of ideas.

Taking the exhibits in the gross, it is positively amazing to discover that in quite 90 per cent. of examples there has not been the slightest attempt to lighten weight. Indeed, most appear to have built heavier than ever. Evidently war experience has shown the Continental industry, as it has our own, the need to provide more rigid frames; but we do not find any evidence, such as Armstrong-Siddeley, Daimler, or Napier, furnish in this country, of the solution of the problem by using higher grade materials, a more simple design, and a deeper channel section alike for the longitudinal and for the transverse frame members. Renault duplicates the longitudinal members over the rear part of the chassis, which strikes one as a complication, though for the rest this pioneer French manufacturer stands out prominently as having eliminated a number of features from his pre-war chassis schemes that were never complicated. He is singular, too, in retaining the slipper type of bonnet with dash in front of the radiator.

Entry of the Aircraft Industry.

In this country we are to expect one or two notable contributions from the aircraft industry, such as that of the Avro Company, which is going to show us one version of how to build a relatively low-priced, medium-sized car of light weight but ample strength. Of the members of the French aircraft industry three have started motor manufacturing and were represented at the Paris Exhibition, Henry and Maurice Farman, Gnôme et Rhône, and Gabriel Voisin. None of them attempts to build a light car or a cheap one. The two former build large six-cylinder, overhead valve-engined vehicles of conventional chassis scheme, retailing, without coachwork, respectively at 48,000 and at 45,000 francs; and the last-named displayed a four-cylinder, sleeve-valve-engined chassis of the middle size, with a bore measurement of 95 mm. and a piston travel of 140 mm. In none of these machines has an attempt been made to solve the motor problems of the hour, the brake schemes being conventional, while the only feature suggesting the influence of the aircraft industry is the amplitude of the equipment on the dashboard. Aircraft were elaborated during the war until there were so many "gadgets" for the unfortunate pilot to watch that the truth is the majority never paid the slightest attention to any one of them. Yet here we find complication being added to complication at the period when the motor carriage industry, unlike the aircraft, is supposed to have settled down to something like a practical proposition. The medical man is certainly the last who wants to have his thoughts taken off his work by being required to keep an eye on a dozen different instruments on the dashboard as he drives about town or country visiting his patients. True, one of the three new-comers we are discussing offers some compensation in the guise of a steering wheel without a lever on it.

because the throttle and magneto controls have been placed among the squad of "gadgets" on the dashboard; but one cannot see that it is any easier to work the throttle or magneto from the dashboard than from its usual place on the steering wheel. Indeed, of the two the conventional practice is the handier.

The only thing these new-comers from the French aircraft industry have to offer in the way of a fresh note is in the amplitude of the valance they supply, more or less on the American style, in the region of the front dumbirons, and of the mudguard in general, all of which scarcely looks like making motor history. But their advent is welcome, first, because they have the habit of developing design rapidly; secondly, because, as competitors for the relatively small market that offers in high-powered costly cars, undoubtedly they will cause the old-established firms, who are revealing such disheartening lack of enterprise, to bestir themselves and engage some brilliant young men with ideas, in substitution for their present presumably exhausted staffs of designers.

A Spanish Contribution.

The publicity department of the Citroen enterprise, which was due to achieve so-called mass production early this season, has been manifest to such good purpose that one would imagine it had been attained already. The driving of a certain number of cars to the Salon as representing a day's alleged output may, however, be regarded as mere *réclame*. A great deal has to be done before the promise of 100 cars daily materializes. Moreover, the price is higher than was proposed originally. Nor is there anything remarkably original in the design of the vehicle, so that it calls for no further consideration on the present occasion, particularly as it is understood that no examples are available yet for export to this country.

A new car comes from Spain, the price of the Barcelona-built four cylinder engined 16–20 h.p. Elizalde machine being fixed provisionally at 22,050 pesetas. The fact that of the two examples staged one has an overhead valve and the other a side valve engine, the bore and stroke measurements being identical, suggests that the manufacturers have scarcely made up their minds as to precisely what they would be at. It is observable, however, that in this novelty the problem of brakes has received serious attention. Not only has the foot-controlled set been furnished to all four wheels; the front suspension has, besides, been specially adapted to take the brake reaction, the scheme being a combination of short semi-elliptic with short cantilever front springs. Established firms in the motor industry prominent in fitting brakes to all four wheels, however, such as Delage, Hispano-Suiza, Piccard-Putet, Gnôme et Rhône, and Bellanger, do not deem it needful to court complication in this way. They merely build the front details of their cars very strongly. Moreover, all three use wire wheels, which are largely going out of fashion in the British industry by reason of the cleaning difficulty.

Some of the Smaller Exhibits.

As showing that some members of the Continental industry are giving attention to the matter of the small car, however, it may be mentioned that the following 4-cylinder vehicles were staged: 9 h.p. Alba (65 by 130 mm.); 6 h.p. Buchet (60 by 100 mm.); 8 h.p. Buchet (65 by 110 mm.); 6 h.p. Bugatti (65 by 100 mm.); 6 h.p. Charron (68 by 100 mm.); 8 h.p. Clement-Bayard (60 by 100 mm.); 6 h.p. Majola (59 by 90 mm.); 6 h.p. Mathis (58 by 100 mm.); 6 h.p. Philos (60 by 100 mm.); and 8 h.p. Zebre (55 by 105 mm.). For the most part medical men will be interested in vehicles of a slightly larger class, among which is a novelty in an 8-cylinder water-cooled nominal 8 to 10 h.p. Suere car with 45 mm. bore and 90 mm. piston travel dimensions; three forward speeds; Michelin disc wheels and Delco electrical gear for starting the engine, firing the mixture in the cylinders and lighting the vehicle, which has consequently no magneto. The construction of this V-type engine is ingenious. The cylinder blocks are cast integral with the vertically split crankcase, each half of which consequently carries a block of 4 cylinders, the Delco apparatus being accommodated in the V between them.

Perhaps the most popular vehicle in the nominal 10 h.p. class is the 4-cylinder monobloc Peugeot of 66 mm. bore measurement and 105 mm. piston travel. In this machine, too, we find the idea of casting the crankcase and cylinder block in one piece; but, as this is a vertical engine, of course only the upper half of the crankcase is embraced in the combination. The chassis is standardized with electrical engine-starting and vehicle-lighting gear, and the now usual French method of unit construction for the engine clutch and gearbox is exploited, the control of the last-named detail being in the centre, not at the side, of the chassis. In the main the worm-drive is not as popular in France as in this country, but it is employed in this Peugeot model on the proper principle of accommodating the worm below the back axle. The rear suspension is by cantilever springs which are not mounted in the general way, the aim of the departure being to ensure the combination of rigidity where that is desirable with flexibility.

The four-cylinder 10 h.p. Majola is a model unusual among the small vehicles displayed, in that it has overhead valves, the inlet and exhaust series being set diagonally in the combustion chamberhead and worked by a single camshaft, which is driven by a silent chain from the crankshaft. It will be observed, therefore, that the method of driving the crankshaft does not accord with either successful racing-car practice or aircraft construction; not that there need be any reason to anticipate trouble on toy scale constructions of this type. The chain need not stretch, provided weight is not deemed a matter of importance, therefore a chain of ample strength is employed.

Odds and Ends.

Like the Peugeot car, the Mathis above-mentioned, which is built in Alsace-Lorraine, has the gear control and hand-brake lever at the driver's left hand. Each valve cap serves to cover an inlet and an exhaust valve. Both sets of brakes act on the back wheels. In the larger Mathis model the hand-brake lever is on the driver's right. Broadly speaking, one sees in chassis of this sort, as in the Buchet and in other small cars, that, as a result of five or six years' development, a greater robustness of construction has been sought. Perhaps another way of putting it is to say that the necessary strength is provided by using more of the same grade of materials instead of newer, lighter, and higher grade materials. The Charronette light car now has the radiator in front of the engine instead of in the front of the dash. Such problems of the Voisin Sulky, reminiscent of the motor buckboard of ten years ago, with two-cylinder air-cooled engine, are merely illustrative of the wide variety of small vehicles of unconventional sorts tentatively on the market, but are not otherwise of concern to the medical man. In the new Clement-Bayard, as in the Peugeot light car, the cylinders and top half of the crankcase are cast in one. The Clement-Bayard engine has a separate head, and there are no valve caps, while a banjo type of rear axle and propeller shaft casing is employed in combination with a single transverse semi-elliptic rear spring. The engine, clutch, and gearbox are of the unit construction, and the change speed control is centralized. The 13 h.p. Unic car of 80 mm. bore measurement by 130 mm. piston travel is really an example of a modern middle-sized car, and is incidentally interesting in that double cantilever rear springs are employed.

Another note of the Salon is the introduction of some middle-size six-cylinder cars; as instance the 15 h.p. Lorraine-Dietrich with a camshaft inside the crankcase, the enclosed overhead valves being worked by rockers. This machine has the left-hand position for steering. The greatest novelty in steering gears is that furnished to the Bellanger de luxe chassis with eight-cylinder V-type engine, wherein the problem of providing a pronounced rake to the steering pillar is made difficult by the position of one block of cylinders.

Broadly speaking, the Renault and Peugeot small cars proved the most popular in the show. The medical man will find all the cars of interest displayed at Paris staged at Olympia, London, in a fortnight's time.

A BILL has been introduced into the Chamber of Deputies of the Republic of Uruguay providing for the organization of a Pan-American Congress to discuss measures for the combating of influenza. It is proposed to hold the congress at Montevideo in the coming winter.

British Medical Journal.

SATURDAY, OCTOBER 25TH, 1919.

THE ANNUAL MEETING IN CAMBRIDGE, 1920.

THE Annual Meeting of the British Medical Association will be held next year in Cambridge under the Presidency of Sir Clifford Allbutt, Regius Professor of Physic in the University of Cambridge. For reasons explained below the meeting will begin at the end of June—several weeks earlier than usual.

The last annual meeting was held in Aberdeen at the end of July, 1914, under the Presidency of Sir Alexander Ogston. It had been intended to hold the next meeting at Cambridge in 1915 and Sir Clifford Allbutt was elected President. He has retained that office, to the great advantage of the Association and of the profession, during the war, but it was not found possible to hold an annual meeting, although the statutory annual general meetings of the Association and of the Representative Body were held each year in London for the discussion of medico-political matters.

Not only did the immense strain of the war upon the medical profession make it inadvisable to attempt to hold the usual yearly conference for the discussion of scientific and clinical subjects, but the University of Cambridge was so denuded of staff and accommodation that it was, for the time, unable to maintain its invitation. During the war, therefore, no annual meeting with Sections was held, and when the matter came up for consideration after the armistice it was found that, while Cambridge was not in a position to arrange for the meeting to be held there during the summer of 1919, there was a strong desire that the Association should hold early in the year—while medical officers of the Dominion Forces and of the United States Army Medical Corps were still in this country—a special meeting to discuss scientific and clinical matters of common interest to all members of the profession, and particularly the medical and surgical lessons learnt during the war. The Rector of the Imperial College of Science, South Kensington, placed that fine building at the disposal of the Association, and a meeting, with three sections — medicine, surgery, and preventive medicine and pathology — was held there during the second week of April, with a success which was apparent to all. Subjects for discussion in each section were selected and the addresses of the openers were printed beforehand and supplied to those who intended to speak. In this way time was found for a large number of speakers and the discussions were spirited and informing. A very large number of demonstrations were arranged also, and the crowded attendances showed that the pains lavished on them by the demonstrators were fully appreciated.

Meanwhile the invitation from Cambridge holds good, or perhaps it might more properly be said, has been cordially repeated. At a meeting last week of the Arrangements Committee, consisting of representatives of Cambridge and of the Association at large, in equal numbers, the general plan for the meeting next year was laid down. It was arranged that there should be four principal sections meeting daily on the three days set apart for sectional meetings. These sections are those of medicine, of surgery, of physiology and pharmacology, and of neurology and psychiatry. It was arranged also that certain other sections should meet, each on one day—namely, pathology and bacteriology, obstetrics and gynaecology, tropical medicine, naval and military medicine, radiology and electro-therapeutics, venereal disease, medical sociology, and medical education. While the number and diversity of sections will thus be greater than at the April meeting, it is intended to preserve as far as possible the features which contributed so much to the success of that conference. Accordingly special efforts will be made to give the meeting at Cambridge an objective character by the organization of numerous afternoon demonstrations, for which purpose the magnificent laboratories of the University will be at the disposal of the Association through the courtesy of the several professors and the University authorities. Furthermore, the rules for the conduct of discussions, which worked well at the special meeting in London, will in general be applied to the sections at Cambridge—an arrangement calculated to promote lively and profitable debates.

In fixing the date and arranging the general plans of the meeting the Committee was largely guided by the advice of the representatives from Cambridge. They explained that the special circumstances of the University make it impossible to hold the Annual Meeting at the usual time of year—that is, at the end of July; it must be held during the short interval between the end of the May term and the summer medical examinations, and the beginning of the long vacation residence, when only would the university, college and municipal buildings and the lodging accommodation of the town be available for members of the Association. Moreover, during term time the pathological and other laboratories are fully occupied with the class work of the great numbers of students now in residence. It was accordingly decided that the meeting should begin on June 25th and end on July 3rd. The Annual Representative Meeting will commence on Friday, June 25th, and will be continued on the following week-days. On the evening of Tuesday, June 29th, the President, Sir Clifford Allbutt, will deliver his address to the Association. Wednesday, Thursday, and Friday will be devoted to discussions in the sections in the mornings and to clinical and laboratory demonstrations in the afternoons. In this way members attending the Annual Meeting in Cambridge having the same spirit as those who attended the April meeting in London will find the day fully occupied, and will be able to devote the evenings to social functions, where they will form or renew friendships.

Cambridge, it is hardly necessary to say, lends itself well to such a programme. The University buildings, freely placed at the disposal of the Association, all stand near each other; the laboratories are numerous and well equipped, and their staffs are determined that everything in their power shall be done to make the meeting a success.

The British Medical Association is indeed fortunate in resuming this part of its activities within the precincts of the great University of Cambridge, in which modern learning is not less honoured than ancient, and under the presidency of a leader and teacher so admired and loved as Sir Clifford Allbutt.

RED CROSS WORK IN PEACE.

By subscribing to the Covenant of the League of Nations this country accepted the Article by which the signatory powers agreed to encourage and promote the establishment and co-operation of authorized voluntary national Red Cross organizations for the improvement of health, the prevention of disease, and the mitigation of suffering throughout the world.

The need of a single national authority to co-ordinate voluntary agencies and encourage and train voluntary workers is one of the lessons of the war. There was a time, before the war, when difficulties arose between the British Red Cross Society and the Order of St. John, to the detriment of the work of both. The strong opinion that these difficulties should be removed and that the two organizations should work together, not in rivalry but in co-operation, led to the appointment by the War Office in March, 1914, of a committee to inquire into the relations between the two societies. The outbreak of war put an end to the inquiry, for the two societies at once agreed to form a joint committee. The work done both at home and abroad by this Joint War Committee was so good that everyone will have been prepared for the project outlined in the letter of Sir Arthur Stanley, of which we gave an account recently, for the formation of a Joint Committee of the two societies to organize Red Cross work in peace.

Not the least of the merits of Red Cross work is that it springs from that noble attribute of mankind, sympathy with suffering, which, like the quality of mercy, blesseth him that gives and him that takes; it is in this spontaneous voluntary offer of personal service that lies the special character of Red Cross work. The idea, at its first conception by Henri Dunant at Solferino in 1859, was to mitigate the sufferings of war by voluntary effort, by giving to the impulse of pity an organization possessed of the necessary material and enjoying international recognition. Like other great ideals, it appealed so strongly to the conscience of mankind, and gathered force so quickly and widely, that the need for voluntary effort diminished since all nations set to work to perfect their official machinery for dealing with the wounded and sick in war. For the British wounded in this war the British Red Cross and the Order of St. John, working together through their Joint Committee, supplemented the efforts of the Army Medical Service, in the early days especially, by the prompt supply of stores and appliances in the interval before the official machinery could get to work on its larger scale. The Red Cross, by adapting itself to new circumstances, and readily and rapidly meeting new wants, showed that it was fully endowed with the flexibility which is the hall-mark of voluntary effort.

The medical profession was sorely strained by the demands made upon it by the immense scale of everything in the war, but the nursing service would have been overwhelmed but for the voluntary workers who, by an inaccurate but convenient contraction, are spoken of as V.A.D.'s. The long casualty lists, the large convoys of wounded that in such rapid succession were brought to every town, made a vivid appeal to the imagination and turned the thoughts of women to the alleviation of so great a mass of suffering. The number of V.A.D.'s rose by leaps and bounds to 90,000 under the British Red Cross Society, and 30,000 under the Order of St. John. The Covenant provides that this splendid effort shall not be allowed to die away. Suffering in peace, though it does not make the same appeal as was made by the casualty lists in each day's newspaper, is not less real, and the sufferers are even more numerous. In Sir Arthur Stanley's sketch of the work the Joint Peace Committee proposes to encourage and direct special importance attaches to the proposals with regard to tuberculosis, home nursing, and child welfare. All three may profitably be combined for the assistance of crippled children. The partially trained must not be encouraged to believe that she can take the place of the fully trained nurse, but we feel confident that in any scheme directed by the Joint Peace Committee this risk will be avoided. Experience proves that women instructed in particular kinds of work can be very useful in many directions where patient, intelligent, personal service is needed. A good instance of the sort of work which voluntary aid workers in peace can qualify themselves to undertake is afforded by a study of the statistics, given on the authority of Miss Hunt of Baschurch, by Sir Robert Jones and Mr. Girdlestone in their paper on the cure of crippled children, published a fortnight ago (p. 457). It appears that among a population in Shropshire and Staffordshire of 671,307 there were 1,130 cripples—a proportion of 1 to 594. By early and well-directed treatment many of these cripples can be cured, and it is certain that almost all can be benefited. The organization needed to deal with the mass of suffering and disability will have to provide not only skilful surgical treatment, but must also be prepared to seek out the cases and provide for continuous supervision over long periods. In this work the voluntary aid of women sufficiently trained to appreciate the general principles of treatment and endowed with perseverance and sympathy is needed. They would work with and under trained nurses and be subject to medical supervision.

In order that the public may thoroughly understand the situation the new committee would, we think, do well to issue an official history of the two organizations. The Order of St. John of Jerusalem in this country was born again during Queen Victoria's reign, and revived some of the customs and ritual, as well as the name, of the mediaeval order. The British Red Cross Society, which was preceded by a National Red Cross Society, was incorporated during the reign of her successor. The history might define the objects and purposes with which the societies were created, and give a list of the awards and honours bestowed by each, of the services rendered, and of the tests of knowledge applied, together with lists of the various publications of each society. The new responsibilities of Red Cross work in peace make it desirable that such a record should be at hand for the information of inquirers, and to facilitate the work of education authorities. The existing V.A.D. organization for war is not itself sufficient for the scheme now proposed, but it will serve well as a nucleus for the larger body now proposed to be maintained in order to carry out the aim of international Red Cross work in peace. In addition to the workers embraced in the two organizations there are, we believe, many thousands who have received training under schemes of county councils; they should be brought within the new organization, which should continue to be based on a county system in all branches of its work, and conducted on thoroughly democratic lines.

THE HARVEIAN FESTIVAL.

The Harveian Festival was, for the first time since 1913, celebrated with full honours by the Royal College of Physicians of London on St. Luke's Day (October 18th). The Harveian Oration has been delivered each year, but the other ceremonies have been intermitted. On this

occasion the oration, delivered by Dr. Raymond Crawfurd, dealt with the forerunners of Harvey in antiquity. As will be seen when the full text is published in an early issue, the speaker supported the thesis that in the matter of the circulation of the blood Harvey's indebtedness to any but Aristotle was negligible. The fuller knowledge now possessed of the writings of men of science of ancient days demanded, he said, a readjustment of traditional beliefs, for too much had been claimed for the ardent anatomists of the Renaissance and too little conceded to the master minds of antiquity. The oration was delivered in the library, and the speaker's development of his theme was closely followed by a large and attentive audience. Afterwards the President presented the Baly Medal to Dr. Leonard Hill, and in doing so recalled the circumstances of its foundation. William Baly was assistant physician to St. Bartholomew's Hospital, a Fellow of the Royal Society as well as of the Royal College of Physicians, and had attained a leading position in London when he was killed in a railway accident in 1861. Five years later Dr. Dyster presented a sum of money to the College to found a medal in Baly's memory, to be given every two years to the person deemed to have most distinguished himself in the science of physiology, especially during the two years preceding the award of the medal. The first recipient was Richard Owen; among others were William Sharpey, Charles Darwin, Sir David Ferrier, Sir Michael Foster, Dr. W. H. Gaskell, Sir Edward Sharpey Schafer, Professor E. H. Starling, Professor Halliburton, Dr. J. S. Haldane, Professor Gowland Hopkins, and Professor W. M. Bayliss. But the medal is not restricted to British subjects, and has been awarded at various times to Claude Bernard, Carl Ludwig, R. Heidenhain, M. Schiff, Professor Pavloff (the Russian physiologist), and Professor E. Fischer. Harvey, in giving the College his patrimonial estate of Burmarsh, in Kent, in 1656, just a year before his death, enjoined that once every year a general feast should be held within the College, and that on that day an oration should be delivered exhorting the Fellows and Members to search and study out the secrets of Nature by way of experiment, and also, for the honour of the profession, to continue in mutual love and affection among themselves, ever remembering that *concordia res parvae crescunt, discordia magnae dilabuntur.* It has been the practice of the College to obey this injunction by holding a dinner of the Fellows, to which guests are invited, on St. Luke's Day. Such a dinner was held on October 18th. The President (Sir Norman Moore), in proposing a toast to the guests, dealt briefly with the changes and terrible events of the years since 1913, and remarked incidentally that the College had been prevented from celebrating as it would have wished the quatercentenary of its foundation, which fell on September 23rd, 1918. In happy sentences, illumined by many historical references, he showed how the College had always manifested its attachment to literature. He reminded his hearers that Linacre—who, with the aid of Cardinal Wolsey, obtained from Henry VIII the charter of incorporation—was one of the earliest Greek scholars in this country, and the friend of such men as Erasmus, More, and Tunstall. Ever since the College had shown its attachment to learning, and had never wanted among its Fellows men of literary distinction and wide scholarship. The toast was acknowledged by Sir J. J. Thomson, President of the Royal Society, who vindicated the claims of medicine to be accounted an independent science, bringing to its task for the prevention and relief of human suffering special methods of observation and experiment, upon which the art of the physician is founded. The toast was acknowledged also by Mr. J. C. Bailey, the editor of Cowper. The health of the Harveian orator was given in a brilliant and sympathetic speech by the senior censor, Sir Wilmot Herringham, and briefly acknowledged by Dr. Crawfurd.

MEDICINE IN INDIA.

SIR HAVELOCK CHARLES has sailed for India in connexion with his duties as Medical Adviser to the Secretary of State. His visit, which is made at the request of Mr. Montagu, will last several months, and during it he will be able to make himself fully acquainted with existing conditions in the various parts of India, including the facilities for research and the present position and future prospects of the Indian Medical Service, and will have the opportunity of conferring with the Director-General I.M.S. on the steps which must be taken to end present griefs and bring contentment. We are well aware that the unrest in the service is widespread and affects seniors as well as juniors. There are, no doubt, many causes; one is the feeling of uncertainty as to the future status of the European services in India if effect is given to the policy embodied in the Government of India Bill, with regard to which a Joint Select Committee of the two Houses of Parliament is now taking evidence. Anxiety due to this cause is not peculiar to the Indian Medical Service, but it labours under certain particular disadvantages. The increases in pay sanctioned have not in practice fulfilled expectations, and the cost of living in India has seriously increased during the last year or so; a related cause of dissatisfaction has to do with pensions rates. A most pressing matter is that it is now and has been for years, practically impossible for officers to obtain leave—in most instances long overdue—or to exercise their right to retire. Under the strain of continuous service many officers are breaking down in health, and there is urgent need to find means of affording relief. There are proposals for offering short-term commissions at a high rate of pay, but without pension rights. Whether such an offer would meet with adequate response—for we believe 200 officers would be necessary—we do not know; but, having regard to the circumstances of the profession in this country, success is doubtful, and at the best such a plan can only be a palliative; what is really needed is the offer of such terms to the permanent establishment as will make it possible to form a leave reserve sufficient to ensure officers getting both study leave and ordinary leave when due. This would probably mean an addition of over 25 per cent. to the cadre. The effect of the war on the supply of medical men has been such as to induce young men to scrutinize the terms offered in the public services very closely, and it is a commonplace to say that the attitude of the Government of India is viewed with profound distrust. It has made the mistake of delaying improvements which might have produced the desired effect, and the further mistake of trying to drive a hard bargain. Finance departments are apt to forget that a medical officer, as we pointed out last week in connexion with the R.A.M.C., enters Government service as an expert, having fitted himself for his special duties by the expenditure of a good deal of capital, and, what is more important, five or six years of life. In the adjustment of his pay, emoluments, and pension rights in their relation to other branches, such as the combatant, where officers enter at an early age and after a much shorter period of preparation, this must constantly be borne in mind. We hope, and indeed anticipate, that Sir Havelock Charles's mission will be crowned with success, for the service never had a better friend, nor one who has a higher ideal for it. During his visits to various parts of India he will come into direct personal contact with medical officers of all branches, and will be able to learn the views of the responsible advisers, both lay and medical, of the Government of India. On his return he will be in a position to advise the Secretary of State from recent experience of the actual present day conditions in changing India. The desire and intention of the Secretary of State is that the causes of unrest in the Indian Medical Service shall be removed, and there is, we are assured, every hope that the obstacles in the way of bringing contentment will be cleared away, so that on

the one hand the Government of India may be enabled to obtain the type of medical man best suited to Indian conditions, and, on the other, that such men may find in the service the best outlet for their talents. The desire, indeed, is to make the Indian Medical Service even better and more attractive than it has been in the past. Sir Havelock Charles is due to reach Bombay in the middle of November, and will probably not return to this country before March. The Committee to inquire into the administration of the army in India is sailing next week, and will probably spend the whole winter in India, taking evidence at Delhi. It may perhaps be anticipated that it will desire to hear Sir Havelock Charles before he returns home. We understand that Sir Michael O'Dwyer, until recently Lieutenant-Governor of the Punjab, has taken the place of Lord Esher as chairman.

INFLUENZA AGAIN?

SIR GEORGE NEWMAN, in the memorandum outlining the principles and practice of preventive medicine, of which we gave some account last week, rightly says that there is need of a more intimate personal study of the beginnings of disease and of its earliest signs—the beginnings of disease, that is to say, in the individual; there is equal need for the study of the beginnings of epidemics. When the central and local health authorities are faced with such an epidemic of influenza as that which prevailed last year, the problems are so complicated by the number of cases—there were 104,738 deaths from this cause in England and Wales in 1918, and the attacks must have been numbered in millions—that they become insoluble by any means at our disposal. There are signs now, in London at any rate, of the beginnings of an epidemic presenting many of the symptoms characteristic of influenza, and believed by many practitioners to be in fact that disease. Sir George Newman says that for the control of any infectious diseases the first need is to know the infecting germ and its ways biologically. At present we do not know the nature of the infecting germ of influenza. There is evidence that it can pass through bacteriological filters of a relatively coarse grain, but of its place in the biological tree and of its qualities nothing is known. It has been proved that a large number of organisms occur in influenza, and that some of them—a haemolytic streptococcus, for example—probably give increased virulence to the disease at various periods of its epidemic prevalence. There is also a suspicion of the occurrence of symbiosis between Pfeiffer's bacillus—which is frequently present and is by many still regarded as the true cause of influenza—and other organisms. Thus Gibson and Bowman, in their paper on the bacteriological flora of the respiratory tract in cases of influenza, published in one of the recent reports of the Medical Research Committee, relate the following experiment, which graphically illustrates this fact: "Streaks from an emulsion of Pfeiffer's bacillus were made on a blood agar plate about a centimetre apart, and at right angles to these streaks were made with a culture of *S. viridans*. Where the lines crossed it was found that Pfeiffer's bacillus had grown much more profusely than along the streaks." This suggests a line of inquiry which may be profitable, but at present it must be admitted that the first condition in the control of an epidemic is not fulfilled in the case of influenza. All that can be said is, again to quote Sir George Newman, that "the risk of infection depends on close personal contact and possible 'drop infection,' but the severity seems related to lowered resistance and possibly increased virulence." The risk of contracting the infection is increased by the aggregation of susceptible persons in ill-ventilated and overcrowded conditions. Unhappily the immunity conferred by one attack of influenza is of short duration, so that sufferers of last year cannot expect with any confidence to be immune if the epidemic develops this year. No doubt it is true that the habit of living as much as possible in the fresh air, and taking reasonable physical exercises, an ample food supply, daily attention to the toilet of the nose and throat, and the avoidance of fatigue, chill, and of alcoholic excess, are the best means the individual can employ to protect himself, but for the present we fear it must be said that no municipal regulations are of any avail. If the Ministry of Health has more encouraging information in its possession we hope it will at once be made public.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

AFTER a somewhat long interval—due, of course, to the war—another, or rather two other, instalments of the New English or Oxford Dictionary[1] have come from the Clarendon Press. Each is a double part, and each brings to a close a large section of the whole work, for one of them concludes the first half of Volume IX, and the other brings to an end the second half. In each there are not a few medical terms of importance, and some of them are of more than usual interest. In the former part the rubrics run from *stratus* to *Styx*, and the words number 2,295. The medical terms may be subdivided into two groups—the medical terms proper (not very numerous), such as *streptococcus*, *streptococcolysin*, *streptothrix*, *stylomastoid*, *stylohyoid*, *strophulus*, *stroma*, *struma*, *strophanthus*, *stupe*, and *strychnine;* and, second, the ordinary words with distinctive medical meanings in special usages, such as *stricture*, *streak* (as in streak-culture, a bacteriological term), *stria* and *striation*, *stridulous*, *strind* (equivalent to strain), *stringent*, *stump*, *stupor*, *stylet*, and *styptic*. A rare word is *streeking*, with its special meaning of laying out a corpse; it signifies stretching and is, indeed, another form thereof. It has always been a characteristic of this Dictionary that ordinary words with special medical meanings have been clearly defined and copiously illustrated, and Sir James Murray's successors in the editorship have in this part fully maintained the reputation of the past. *Stroma*, in its etymology, is interesting; it comes from the Latin *stroma*, a bed covering, and that in its turn from the Greek στρῶμα, anything spread or laid out for lying or sitting upon, and so it arrives at its modern English use of "the fibrous connective sustentacular tissue or substance of a part or organ" or of "the spongy colourless framework of a red blood corpuscle or other cell." *Struma* is defined in its different medical senses, and is illustrated by a number of apt quotations which show its relation to the King's Evil and the origin thereof. Under *strychnos* there is given the passage in Pliny's Natural History (Holland's delightful English translation), which reads: "Some call this hearbe by another name, *strumus*, and others give it the Greeke name *Strychnos*." A quotation of 1836 tells of the discovery of "a whole vegetable family, the bitter strychni, possessing the property of stimulating the spinal marrow to an extraordinary development of its functions." *Sty*, meaning an inflammatory swelling on the eyelid, has a curious derivation, being probably a back formation from *styany*, interpreted as "sty-on-eye." The word which covers most space (twelve pages of three columns) is "strike," and it also has a medical meaning—namely, to attack or afflict with a disease. The second part runs from *sweep* to the mysterious word *Szmikite* (a hydrous sulphate of manganese, named after Szmik, a Hungarian). There are almost no medical terms proper in this part until the *sy*'s are reached, unless an exception be made in favour of the obsolete *swime* (dizziness) and *swine-pox* (a name for chicken-pox); but under the *sy*'s there is a whole crowd of words, such as *sycosis* (Greek σῦκον, a fig), *symbiosis*,

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray, Henry Bradley, W. A. Craigie, and C. T. Onions. Stratus—Styx, vol. ix; Sweep—Szmikite, vol. ix. Oxford: At the Clarendon Press. London, Edinburgh, New York, Toronto, Melbourne, and Bombay: Oxford University Press; Humphrey Milford. August, 1919. Two Double Parts, 5s. net each.

symphysis, *symptom*, *syringomyelia*, *syphilis*, *systole*, and many more. Several of these words have most interesting and yet little known derivations. How many, even among the neurologists, are aware that the term *Sylvian*, as applied to fissure, aqueduct, and fossa in the brain, is derived from François de la Boë Sylvius, a Flemish anatomist who lived between 1614 and 1672, and not from Jacques Dubois, latinized as Jacobus Sylvius, a French anatomist living between 1478 and 1555? Few, likewise, realize that the commonly used term *synovia* was an invention, probably arbitrarily formed, of Paracelsus, and was applied by him to the nutritive fluid peculiar to the several parts of the body, and not specially to the fluid of the joints. The etymology of *syphilis*, explained in the JOURNAL a few years ago, is succinctly stated in the following statement in the Dictionary: "Modern Latin *syphilis*, originally the title (in full, *Syphilis, sive Morbus Gallicus*) of a poem, published 1530, by Girolamo Fracastoro or Hieronymus Fracastorius (1483–1553), a physician, astronomer, and poet of Verona, but used also as the name of the disease in the poem itself; the subject of the poem is the story of a shepherd, Syphilus, the first sufferer from the disease, the name *syphilis* being formed on the analogy of *Aeneis*, *Thebais*, etc." Surely the editors of the *New English Dictionary* are masters of the lexicographic art and science.

THE COMING ELECTION TO THE GENERAL MEDICAL COUNCIL.

IN our advertising pages there have appeared Notices of Election signed by the President, Sir Donald MacAlister, K.C.B., as returning officer for the forthcoming election of direct representatives of the medical profession on the General Medical Council. An election will be held of four members to represent the registered medical practitioners resident in England and Wales, one member to represent practitioners in Scotland, and one member to represent practitioners in Ireland. In each case every registered medical practitioner is qualified to be nominated as a candidate. A separate nomination paper is necessary for each candidate; it must state his name, registered address, and registered qualifications, and must be signed by not fewer than twelve registered practitioners resident in the part of the United Kingdom concerned, together with the registered address and qualifications of each signatory. Every registered medical practitioner resident in England and Wales is entitled to take part in nominating four candidates; every practitioner in Scotland may take part in nominating one candidate; and every practitioner resident in Ireland may take part in nominating one candidate. Every nomination paper—accompanied by a declaration in writing, signed by the person nominated acknowledging that he consents to be nominated—must be delivered on or before November 1st, 1919, addressed in the case of England and Wales to Mr. Norman C. King, the Registrar, the Medical Council office, 44, Hallam Street, London, W.1; in the case of Scotland to Mr. T. H. Graham, the Registrar, 20, Queen Street, Edinburgh; and in the case of Ireland to Mr. Richard Roe, at 35, Dawson Street, Dublin. Nomination papers may be obtained from these addresses.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE annual dinner of the Society of Medical Officers of Health was held (after an interval of five years) at the Café Royal on October 17th, with the President, Professor H. R. Kenwood, C.M.G., in the chair. Nearly a hundred Fellows and guests were present. The toast of "His Majesty's Forces" was proposed by Professor A. Bostock Hill, who spoke of the debt owed by the empire to the medical departments of all branches of the Forces, and added that the civilian profession had learnt much of value from the Army Medical Service. Lieut.-General Sir John Goodwin, D.G.A.M.S., in his reply, spoke of the immense influence of medicine upon the course of the war, and more particularly the part played by preventive medicine. He had expressed the opinion in the second year of the war that if all preventive measures were stopped by one side or the other, hostilities would come to an end in a very few weeks. One of the greatest advances had been the education of combatants in the importance of sanitation. The toast of "The Ministry of Health" was proposed by the President, who remrrked that after a protracted ante-natal period the Ministry had now been born. Dr. Addison was prevented by indisposition from attending, and the reply to the toast was undertaken, at his request, by Sir Robert Morant, who prefaced his eloquent and stimulating speech by asking that his words should not be taken as an official utterance of the Ministry. He felt no doubt that in the unification of divergent services the medical voice would be heard all through the new Ministry; but the lay side, too, had to be encouraged. Medicine must not hope for short cuts, but must be ready to persuade the public to let the expert view have its proper place. Sir Robert Morant touched also on his personal debt to his old and trusted friend and colleague, Sir George Newman. He spoke in conclusion of the even greater difficulty in the way of local unification of the public health services; in this also the medical profession must play its part by working up public opinion. The toast of the Society was proposed by Sir George Newman in a brief speech, and the President responded. Dr. G. F. Buchan proposed the health of the guests. The Dean of St. Paul's replied in a few witty words, and was followed by Sir George Makins, who said he represented the curative side—that is, "those who have to deal with your failures." The real unity of both branches was illustrated by the work of Simon and Lister.

THE NEW R.A.M.C. TEMPORARY CONTRACT.

IN addressing a meeting of the profession at Aberdeen on October 16th, in pursuance of his candidature for election as direct representative of the profession in Scotland on the General Medical Council, Dr. Norman Walker took occasion to refer to the progress of demobilization and to the present needs of the R.A.M.C. While nearly all the practitioners who had joined the R.A.M.C. had, he said, been released to return to their practices, there were a few who had not, and there were a number of young men who had served for several years whom it was not possible for the army to spare because of the difficulties of relief. He regretted very much the breakdown of the arrangements which were entered into between the authorities and the Professional Committees on Armistice Day, under which the young graduates who had been released from combatant service in order to complete their medical education would automatically have joined the army, and he felt it was up to those men to give the six months' service, which was all that the Army Medical Department now required. He had discussed the situation recently with the Director-General, and he was authorized to say that anyone in or out of the army who signed the new six months' contract would be released that day six months in whatever part of the world he might be. This should be widely known, for he found that there was an uneasy feeling in some quarters that release might not be permitted at the end of the period.

AT a conference of the leading urologists of the allied and neutral nations held recently in Paris, Mr. E. Hurry Fenwick, C.B.E., consulting surgeon to the London Hospital, was elected president of the Société Internationale d'Urologie, in succession to Professor Guyon. We are glad to be able to record this evidence of international amity in science, and it will be particularly gratifying to British surgeons that one of their number should have been chosen as the successor of so distinguished a master as Professor Guyon.

England and Wales.

Leeds and West Riding Medico-Chirurgical Society.

The first meeting of the session was held at the General Infirmary, Leeds, on October 17th, when 112 members were present. The opening address was given by Sir T. Clifford Allbutt, K.C.B. In the graceful English of which he is a master he sketched the early history of the society which he was instrumental in founding, and the characteristics of some of the prominent practitioners of the district who were associated with him. He reviewed the present position of the medical profession, particularly as it affects the general practitioner, and made a strong appeal for the retention of that intimate relation with patients which is such an important factor in the work of the family doctor. A vote of thanks to Sir Clifford Allbutt was proposed by Sir Berkeley Moynihan, seconded by Dr. Eddison, and carried with acclamation. Subsequently a number of cases and specimens were shown to the meeting by Dr. T. Wardrop Griffith, Dr. Rowden, Dr. Hellier, and others.

William Tait Sewell Memorial Fund.

The colleagues and friends of the late William Tait Sewell decided last June to take steps to perpetuate his memory in the University of Durham College of Medicine, Newcastle-on-Tyne, and the Royal Victoria Infirmary. Sewell was educated at Newcastle and took his medical degree in 1904. After holding various resident appointments he determined to devote himself to pathology and bacteriology, and in 1909 became assistant in the Bacteriological Department of the University of Durham College of Medicine. Later he became assistant pathologist to the Royal Victoria Infirmary, and eventually lecturer in pathological histology in the College, and pathologist to the Children's Hospital. He was a good teacher and was beginning to do excellent original work. When the war broke out he was a captain in the Durham University O.T.C. and was in command of the College of Medicine Company, but being anxious to join the Expeditionary Force he was transferred to the Royal Inniskilling Fusiliers. He fell in action leading his men on July 1st, 1916, in the attack on Thiepval. It is intended that the fund now being raised should be used for the foundation of an annual medal and prize in clinical pathology. Any friend or colleague of the late Dr. Sewell wishing to subscribe to the fund is requested to forward his subscription without delay to the Honorary Treasurer of the Fund, Mr. Thomas Dunn, University of Durham College of Medicine, Newcastle-upon-Tyne. It is proposed to close the subscription list in the beginning of November, after which a meeting of the subscribers will be called to determine the precise form the memorial should take.

Welsh Board of Health.

In accordance with the expectations held out to Welsh members during the discussions on the Ministry of Health Bill, arrangements have now been made to extend considerably the functions of the Welsh Board of Health. The work to be immediately transferred includes all the functions of the Housing Department of the Ministry of Health in Wales. Mr. A. Lloyd Thomas, the Housing Commissioner for Wales and Monmouth, becomes a member of the Welsh Board of Health and his staff is transferred from the London to the Cardiff establishment. Arrangements have also been made to transfer to Cardiff an important part of the work of the Ministry in relation to public health. In view of the extent and importance of the functions involved the actual transfer cannot take place immediately, but the necessary preliminary arrangements have already been made.

Scotland.

Scottish Consultative Councils.

A draft Order in Council has been laid before Parliament this week providing for four consultative councils in Scotland to advise the Scottish Board of Health on medical and allied services, National Health Insurance (approved societies' work), local health administration and general health questions, and Highlands and Islands. The duties and constitutions of the councils resemble those assigned to the corresponding councils in England. The membership of each is not to exceed twenty, and must include persons of both sexes. The councils will be authorized to appoint committees for special purposes, and to include in them persons who are not members of the council. The councils must meet at least three times in each year.

General Medical Council Election.

Dr. Norman Walker, in pursuance of his candidature for re-election as direct representative of the medical profession in Scotland on the General Medical Council, addressed a meeting in Dundee on October 15th.

Emeritus Professor MacEwan, who occupied the chair, said that Dr. Walker's record of work on the Council encouraged his constituents to return him again as their representative. Dr. Walker gave some interesting official figures dealing with the registrations of practitioners and students during the past twenty-five years. In 1894—twenty-five years ago—1,426 names were added to the *Register*. The numbers grew less until in 1911 only 1,042 names were added. The figures rose again to 1,526, but nearly 300 of these were colonial and foreign registrations connected with the war. In 1917 the number dropped to 1,134, and in 1918 to 1,077; for this year it was doubtful if the figure would reach 1,000. A tragic increase was shown in the numbers removed by death. In 1915, 774; 1916, 983; 1917, 801; and in 1918, 946. Only on two previous occasions had the number topped 700. Many of these were of course the direct casualties of the war; not a few were indirect casualties from overwork at home. The number of students registered in 1918 was 500 greater than the previous record of 1891, when the impending institution of five years' curriculum was responsible for an exceptional entry. The schools had a unique opportunity of raising the standard required of their graduates. After discussing other matters in which the Council was concerned Dr. Norman Walker said:

Before I sit down I want to refer to a subject on which, Mr. Chairman, I do not lightly enter. Nothing but a sense of duty leads me to raise now the question of the position of our profession in the event of future wars. No one who went through the anxieties of a parent can contemplate the idea without horror; but it must be faced, and those of us who hoped and believed that this war was the last must sadly admit that the millennium seems a long way off yet. The medical profession has been under the limelight during this war; it has come through with flying colours, but it has been at the cost of much hardship, *some of it avoidable*. I am not alluding only to the hardships endured by individual doctors but to those of the community as well, and I am not going to cry over spilt milk. But I feel very strongly that we should not have to go through the same experiences again, and I see only one way to avoid it. After things have settled down—say in a year's time—the Government should appoint a commission, on which the services and every section of the civil medical profession should be represented, to survey the whole problem of naval, military, and civil medical service in the event of another war, and to draw up a skeleton plan combining the maximum of utility with the minimum of waste.

At a meeting in Aberdeen on October 16th the chairman (Professor Cash), in introducing Dr. Norman Walker, referred to the valuable services which Dr. Walker had rendered during the past twelve years in his capacity of direct representative for Scotland to the General Medical Council. Not only in the council chamber but in the essential preliminary work conducted by the various committees, of many of which he was a member, whilst he was chairman of two of them, Dr. Walker had proved himself an energetic representative, guided by sound judgement and wide insight into the manifold duties which devolve upon the Council. Whilst the chairman could not entirely unite with all the proposals which it contained, he recognized the high value, in general, of the programme which Dr. Walker had projected, dealing with the problems of reconstruction, including a progressive policy in certain aspects of medical education. In view of Dr. Walker's excellent record of service, his wide experience and devotion to the progress of his profession, the chairman expressed the hope that his constituents would return Dr. Walker to the Council for a further period of office.

Dr. Walker prefaced his remarks with a brief tribute to the memory of the late Professor Stephenson, to whom.

more than to any one else, he owed his original election to the Council.

Dr. Walker said that in the series of addresses he was delivering he had a large number of subjects to select from; selection was not always easy, but no one, he thought, would complain when he selected education as peculiarly suitable in Aberdeen. He repeated the figures which he had given the previous day in Dundee as illustrative of the opportunity which was open to the Scottish universities to raise the standard of medical education. After referring to the impending elevation of the standard of the preliminary examination, he said that he thought he was warranted in intelligently anticipating no long delay before the next step, under which students would be allowed to sit for examination in elementary chemistry, physics, and biology immediately on entering the university. It was his duty, as acting Chairman of the Examination Committee, to make a specially close study of the returns submitted by the different schools, showing the numbers passed and the numbers rejected at each of the professional examinations. There were remarkable differences in the percentage of rejections in different places; but on close study it was usually found that where the percentage of rejections was small it occurred in one of the smaller schools where the association between the teachers and the students was close and intimate and where the professor, who was after all the best judge of the student's real capacity, was an examiner. There was no school, he thought, which showed a smaller percentage of rejections than Aberdeen, and he had no doubt that this was due to the causes he had referred to. He feared that the great inrush of students would interfere with this intimate knowledge, unless the universities and schools recognized the importance of increasing materially the number of their teachers. He did not suggest that a number of new chairs should be established, because he did not believe the present large entries would be kept up; but an addition to the staff was urgently needed in almost every department of every school. He went on to say that there were one or two things which, as their representative, he felt it his duty to refer to at all his meetings. The first was the importance of doctors satisfying themselves that their names were on the *Register*. He explained how, under the provisions of Section 14 of the Act, names were removed, and mentioned that at the last contested election in Scotland between 200 and 300 papers were returned through the Dead Letter Office, and secondly, the Penal Cases Committee—of which he had been for several years a member—was being criticized in certain quarters because, at its direction, the Registrar had written to certain medical men, against whom complaints had been made, informing them of the fact. The letters were written wholly in the interests of the doctors, and the effect was, in the great majority of cases, that nothing further was heard of the complaint, which was based on a misunderstanding.

Dr. Dewar has also been continuing his electoral tour, and during the past week has addressed meetings of the profession at Perth, Kirkcaldy, Glasgow, and Dumfries. Dealing with the reconstruction of the medical curriculum, he said that it would be of great advantage to students to shorten the courses of systematic lectures and devote the all too limited time to practical tuition and study in laboratories and at the bedside. In midwifery especially every graduate should be equipped with a practical knowledge of the manipulations required in the conduct, not only of ordinary, but also of the more complicated cases. Every graduate who proposed entering general practice should have a short period of training under an experienced general practitioner to learn the relationships between the public and its medical advisers, before launching into practice on his own account. He expressed the opinion that a whole-time State medical service could not be a matter of practical politics for a long time to come. Such a service would not be good for the public or the advance of the profession. An extension of medical benefits to the dependants of insured persons would be a second step towards the introduction of a State service; but before this extension could be brought about satisfactorily an enormous expenditure would be incurred by the necessary inclusion of consultants and specialists, the greater public use of existing hospitals, and the establishment of new hospitals and laboratories all over the country. In the present financial position of the nation such an expense would not be tolerated by the public. In the previous week Dr. Dewar addressed a well attended meeting in Aberdeen.

Dr. Ebenezer Duncan has recently issued a full address. In it he informs the electors that he has been for many years a general practitioner in Glasgow, and before that had had some experience of medical practice in country districts and mining villages. He mentions that he has been a lecturer in two Glasgow extramural schools, and says that as a member of the committee of management of the Conjoint Board and its present chairman, he is familiar with the proposed reorganization of the medical curriculum and the alterations recently advocated in professional examinations, questions closely connected with the work of the General Medical Council. He enumerates the reforms he advocates as follows:

1. A minimum age limit of 18 years for registration as a medical student.
2. Raising the standard of the preliminary examination of all medical students to that of the preliminary examination for arts and science students in the Scottish universities.
3. The elimination from the medical curriculum of elementary chemistry, botany, and physics, which should in future be studied in secondary schools. An examination in these subjects should be passed by the student before commencing medical studies.
4. Less systematic lecturing and more practical teaching, including compulsory tutorial classes.
5. The elimination of systematic lectures on materia medica, the time so obtained to be devoted to instruction in pharmacology, toxicology, and therapeutics.
6. Toxicology being relegated to the teacher of pharmacology, one-half of the session of the class of forensic medicine should be devoted to instruction in preventive medicine and public health.
7. Clinical classes to consist of not more than twenty students. Where infirmary accommodation and clinical lecturers are insufficient to permit of this, the clinical material in Poor Law hospitals and more clinical lecturers should be utilized.

Lastly, with regard to the present system of examination for qualifying degrees and diplomas in medicine and surgery, evidence given by their teachers of excellence in class work and in class examinations should be taken into consideration by the examiners in grading the examinee for pass marks, especially in doubtful cases.

Ireland.

PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS.

At the annual meeting of the Royal College of Physicians of Ireland held on October 18th Dr. James Craig was elected President. Dr. Craig is King's Professor of Practice of Medicine in Trinity College, Dublin, visiting physician to Sir Patrick Dun's Hospital, and Physician-in-Ordinary to the Lord-Lieutenant of Ireland. Dr. S. T. Gordon was elected Vice-President. The censors elected were Drs. S. T. Gordon, A. R. Parsons, Wm. Boxwell, and J. Spencer Sheil. Sir J. W. Moore was re-elected the representative of the College on the General Medical Council.

OPENING OF THE WINTER SESSION, BELFAST.

The opening address at the Medical School, Queen's University, Belfast, was delivered by Mr. A. B. Mitchell, O.B.E., F.R.C.S.I., in the King Edward VII Memorial Hall of the Royal Victoria Hospital on October 16th. Professor Lindsay occupied the chair. In welcoming the students Mr. Mitchell commented on the large increase in their numbers, and said that in consequence the staff of the hospital had been enlarged and new facilities for clinical study provided. The war had, for the first time in the history of the British empire, afforded an opportunity of estimating the health of the country, and the country had not stood the test well; not one adult man in three could be labelled class A1. This showed that there was ample scope for the work of the large numbers of medical students, both men and women, who were now in training. Referring to the Ministry of Health and the new consultative committee of medical men, two of whom were graduates of Queen's University, he said that it would be the duty of the profession of the future to take a much more prominent position than in the past, and that the medical societies would have to act as consultative bodies for the various public boards. The Poor Law and the

hospital systems of the country were bound to be changed; they were inadequate, and the character of their work had altered. "Team work" was suited to hospital practice, but was expensive and almost impossible in private; therefore the tendency was for treatment to become more and more institutional. In conclusion, Mr. Mitchell emphasized the fact that students should never forget that the school looked to its graduates to uphold its reputation and traditions in every corner of the globe.

ELECTION OF SENATORS, QUEEN'S UNIVERSITY, BELFAST.

At a recent meeting of convocation, held on October 15th, eight vacant seats were contested by thirteen candidates. Among the members elected were the following medical men: A. B. Mitchell, O.B.E., F.R.C.S.I., William Calwell, M.A., M.D., J. Walton Browne, B.A., M.D., and R. W. Leslie, M.D., LL.D.

Correspondence.

THE CURE OF CRIPPLED CHILDREN.

SIR,—The plea for a national scheme for the treatment and care of crippled children, by Sir Robert Jones and Mr. Girdlestone, published in the BRITISH MEDICAL JOURNAL of October 11th, induces me to record what is being done in Rochdale and district for such cases.

The work is carried on by a body known as the Crippled Children's Union. The union is managed by a general committee consisting of representatives of the general public and the public health and educational authorities. The committee has an office in the town, and employs a secretary at a small salary to look after the office work, interview parents, and see to the general organization of the union, the repair of appliances, etc. She attends at the office at stated hours.

The union has a country hospital at Norden on a pleasant moorland site, ten minutes' walk from one of the car routes out of Rochdale. The hospital, which has accommodation for fifty patients in open-air wards, together with the necessary staff, was built, equipped, and presented to the union by the president, Mr. Walter Scott, in memory of his wife.

I act as honorary surgeon to the union and the hospital. All cases before being taken up by the union are submitted to me and reported on. Experience teaches that almost all cases need hospital treatment at the outset.

Every case has a card on which are written the name, address, and age of the child, together with the diagnosis and type of treatment, and at each visit to the honorary surgeon a brief note is made as to progress and when the case must next be brought for inspection. This acts as a reminder to the parent, and enables the surgeon to see at a glance what has been done, and whether the case is being brought for inspection according to instructions. A visitor from the committee of the union is appointed to each case, whose duty it is to visit the case periodically when at its own home and see that the instructions of the surgeon are being properly carried out, and generally to encourage and help the parents. Assistance in the way of food or medicines is also given if thought advisable. I see these cases at my own house at times convenient to the parents, so as to place no obstacle in the way of their attendance, and no case is allowed to escape from observation so long as any treatment is necessary. At the country hospital, "The Memorial Home for Crippled Children," we have a matron and head nurse experienced in the care of orthopaedic cases, together with the necessary nurses and probationer nurses. As we are dealing with children only, we encourage probationers to come to us at from 18 to 20 years of age and spend two years with us before going on to general training elsewhere. Two teachers attend daily for the education of the children of school age.

The expenses are defrayed partly from a small endowment fund, partly from subscriptions, and partly from grants received from the Board of Education. I am, etc.,

Rochdale, Oct. 19th. W. HIRST BATEMAN, M.B., Ch.B.

SIR,—As one who has been engaged for more than ten years in orthopaedic work amongst school children I welcome the excellent scheme outlined by Sir Robert Jones and Mr. Girdlestone. This scheme, however, seems to me to fall short of the best in its provision for the treatment of the tuberculous cripple.

However good the fixation and nursing of these cases may be, the chief agents of cure are sun and climate, and it is certain that if the treatment is to be carried out in regional hospitals some of these hospitals will be situated in surroundings which are not the best for the purpose.

I know only too well, for instance, the handicap of having to treat cases of active surgical tuberculosis at an institution within four miles of the heart of Manchester. The improvement in the general health and the local lesion during our very brief summer is very striking, but it is painfully outweighed by the loss and relapse which follow on the eight or nine months of fog, dull days and sunless drizzle which we "enjoy" during our winter here. To treat these children under such conditions when better may be obtained is not merely a loss of time and money but is rather a deplorable waste of opportunity.

In my opinion we shall not do justice to these cases until, following the example of France at Berck, we build large hospitals in the best climatic conditions we have.—I am, etc.,

Manchester, Oct. 14th. E. D. TELFORD.

TRANQUIL TRACHEOTOMY.

SIR,—It is with due diffidence I venture to support Sir William Milligan in his letter on this subject. In over a quarter of a century of practice I have had some considerable experience of this operation done for all sorts of conditions, and I agree with Sir William that, however careful one is, it is practically impossible to arrest all haemorrhage before opening the trachea, at least in urgent cases. Moreover, it is, I believe, the general experience that the bleeding, which is almost entirely venous, promptly ceases when the tube is inserted and free respiration is established.

On not a few occasions I have had to do tracheotomy when breathing has completely stopped, although in all these cases after prompt insertion of the tube and performance of artificial respiration, breathing was restarted. In one during a fit of coughing a large plug of diphtherial membrane had been sucked into the trachea and caused instant suffocation. Fortunately I was at hand, and in less than a minute had opened the trachea, which was evidently still sensitive, as the contact of the forceps set up a cough and the piece of membrane was coughed out through the opening. If such a trachea had been rendered insensitive by cocaine no such life-saving action would have been possible, and I feel quite assured that Sir William Milligan is right in drawing attention to the danger of rendering the trachea insensitive in these cases. I would even go so far as to say that in my opinion the sensitiveness of the trachea is our greatest ally in the operation of tracheotomy, and that any advantage to be gained in regard to ease of operation is far outweighed by the increased danger to the patient from the failure to expel—and the more violently the better—any foreign material that finds its way into the air passages.—I am, etc.,

P. R. COOPER, M.D., B.Sc., F.R.C.S.

Altrincham, Oct. 21st.

SIR,—As Chevalier Jackson puts it, the cough reflex is "the watch-dog" of the larynx, and should be respected. But the method I have described for checking the explosive cough, which often occurs as soon as the trachea is opened, has a very temporary and transitory effect, just as we all know it has when a weak solution of cocaine is sprayed into the pharynx to facilitate laryngoscopic examination. Cough during a tracheotomy does not make for safety; it tends to congestion, haemorrhage, and danger. The tranquillity secured by the intratracheal injection of a few drops of a 2½ per cent. solution passes off within half an hour.

Sir William Milligan was unfortunate in the six cases in which he tried it. I cannot agree with him that in most cases requiring tracheotomy "the pulmonary tissues are already water-logged," though possibly this condition may come on when tracheotomy is unduly delayed. One would naturally avoid its use in a bronchitic or emphysematous patient who chanced to require tracheotomy. The fifty odd cases in which I have employed it had no symptoms of being "water-logged," and in none

of them, nor in the practice of my pupils, have I heard of any drawbacks. The effect of the cocaine passes off and the cough reflex reasserts itself by the time the patient gets back to his bed. Considerable experience, therefore, justifies me in recommending it in the large majority of cases.—I am, etc.,

London, W., Oct. 21st. StClair Thomson.

CREMATION AND MEDICAL FEES.

Sir,—Cremation is increasing in this country, and as it is likely to become much more general in the near future, I venture to bring forward a matter as to which some recognized line of practice should be agreed upon while the movement is still in its infancy.

Before the cremation of human remains can take place the Cremation Act, 1902, and the Rules and Orders, 1903, require that two medical certificates (Forms B and C) should be given by two registered medical men who have seen and examined the body after death. Form B must be filled in and signed by the medical man who attended the deceased during his last illness, and Form C by a registered practitioner of not less than five years' standing and who either holds certain other qualifications or is appointed for the purpose by the cremation authority.

These certificates should furnish precise and accurate information, but impose no responsibility for the actual cremation. That rests solely with the medical referee, whose duty it is, before he authorizes the incineration, to review all the certificates, and to see that the Cremation Act has been complied with.

To what fee are these two medical men signing Forms B and C entitled? On the one hand it should be adequate, for they have rendered a service to the community, and on the other it should not be excessive, for that tends to strangle cremation by adding largely to the cost, and leads relatives desiring that the remains should be disposed of in that way to abandon the idea, and revert to the older established custom of burial.

It is on this question that the opinion of the profession is sought, and in framing an answer it should be remembered that the profession when giving a death certificate for burial receives nothing for the service it renders to the State, whereas if cremation became general that anomaly would no longer exist.

Personally I think the position would be fairly met by each of the medical men charging his usual fee for a professional visit. I should be glad to hear expressions of opinion from practitioners on the subject.—I am, etc.,

Herbert T. Herring,
Medical Referee, London Cremation Society.

Harley Street, W., Oct. 20th.

THE R.A.M.C. AS A CAREER.

Sir,—The eloquent address of Sir John Goodwin, published in your issue of October 11th, p. 469, displays all those qualities of fervour and genius that one would expect from so brilliant and successful an officer. At the same time it has doubtless occurred to many of your readers that a small "corrigens" to his stimulant might serve a useful purpose. Such a dose is supplied by the following three facts, which are well known to all who have experience of the common round of military medicine:

(*a*) In time of peace there can never be a sufficient number of sick soldiers to give much bedside work to medical officers. All the serious clinical work is in the hands of a very few officers, and this work is narrow in scope when compared with their civilian brethren's activities.

(*b*) "Administration" and "hygiene" in the army are mere euphemisms for clerking and conservancy—except, again, in the case of a very few posts.

(*c*) A tropical climate can never be anything but highly unsuitable for married women with children.

I am, etc.,

October 12th. Through the Mill.

THE PATIENT UNDER CAPITATION.

Sir,—It is not clear whether "Anti-Contract" (p. 510) is or is not a panel doctor. His letter reads as if he may be, yet who could be a panel doctor if he acted as "Anti-Contract" suggests? A panel doctor must give satisfaction to his panel patients or else new ones will not come to him. It is surprising how soon a doctor's faults or good points get known in a working-class area. Again he looks for his private practice to the families of his panel patients. His whole financial success depends on his good treatment of his panel patients, for he will not increase his panel and get these others if he does not show himself attentive to his panel patients. Therefore, either "Anti-Contract" is not a panel doctor, or else he has but a very small panel.—I am, etc.,

October 18th. "Contract."

THE CAPITATION RATE.

Sir,—The parallelism between the position of the railway workers in the recent negotiations with the Government and of panel practitioners will, I trust, not have been missed by the medical profession, as from it several lessons of considerable value may, I think, be gleaned.

In the first instance, there was considerable dissatisfaction by both with the pre-war rates of remuneration. It is obvious that the low wages paid to the lowest grade of railway workers could not be defended, and very little more could be said in favour of the pre-war 7s. paid (less deductions) to insurance practitioners, though I know that the stress of competition would induce some of them to be content with it. In the negotiations with the railway workers Mr. Lloyd George admitted that the cost of living to-day was 125 per cent. higher than in pre-war times. That means that the purchasing power of two "Bradburys" and a quarter is to-day only equal to that of the pre-war sovereign. It also means that our 7s. must be multiplied by $2\frac{1}{4}$ for its purchasing power to be equal to what it was before the war. That is, that equal value to-day can only be obtained by 15s. 9d. Then there is the admittedly increased work entailed by the condition of discharged soldiers and sailors, which has been estimated by the Insurance Acts Committee to be equivalent to a capitation fee of $2\frac{1}{4}$d. But many practitioners have neglected to send in proper returns, so it would, I am sure, not be excessive to put this at 3d., and so we get 16s. as the proper equivalent of the pre-war 7s. That would do no more than bring us to the pre-war condition of affairs, which many of us then considered a niggardly payment. Anyhow, it was not a payment which was calculated to induce men to give of their best. I do not know what lines the negotiations between the Insurance Acts Committee and the Government have taken; but to accept anything less than 16s. at present would be a tacit admission that 7s. was very good and satisfactory pay in the old days, and I do not think the profession as a whole would endorse that view.

In the second place, we must look at the terms of final settlement with the railway workers. These contain two important provisions: (*a*) That there shall be a reduction in their rate of remuneration proportionately to, and *pari passu* with, the reduction in the cost of living; and (*b*) that no matter how much the cost of living shall fall, the reduction shall not fall below an agreed minimum, which will be very well above pre-war wages. It has occurred to me that something on those lines would be agreeable to the medical profession, and I cannot see why the Government, having done it for one class of workers, should not do it for another. The important point is, what shall be the minimum? I fancy that 12s. 6d. has been favoured by most Panel Committees as the right figure, and personally I should be well satisfied with it. I therefore suggest we should be paid 16s. while the cost of living remains at its present figure, and that it should be reduced to 12s. 6d. as the cost of living comes down. This, I suggest, should be in three equal instalments of 1s. 2d.; the first to come off when the cost of living has come down to 100 per cent. higher than the pre-war cost, the second when it comes down to 75 per cent., and the third when it comes down to 50 per cent. After that no reduction at all.

This, though not nearly so good as the railway workers have received (of course our voting power is not nearly so great as theirs), would be a settlement likely to remove all feelings of dissatisfaction with the work which has been so prevalent in the past, and at the same time one which, I believe, could be met without increasing the present rate of contribution by the workers.—I am, etc.,

Ashton-under-Lyne, Oct. 11th. Saml. Crawshaw.

RURAL PRACTITIONERS' REMUNERATION.

SIR,—The otherwise fruitless railway strike appears to have done a good turn to the rural practitioners. Dr. COX, during his enforced stay in North Wales, has increased his experience of the difficulties of travelling which the "really" rural doctors have to contend with, and will, I am sure, exert his influence on their behalf. He does not tell us how the Mileage Fund Committee "can easily obtain first-hand information" of the difficulties of other districts presenting special features, but no doubt provision will be made for obtaining that information.

It is particulary gratifying to me to know that the surface of the roads is to be considered, as I have had the misfortune to break three springs and the front axle of my car during the last twelve months, owing in every case solely to the appalling surface of what are euphemistically called "roads." The time element (walking, crossing fords, opening and shutting gates, etc.), is also an important consideration and, we are assured, will not be lost sight of.

I trust those rural men who have been asked to provide certain figures for the assistance of the committee have already done so, since, judging from past experience, the authorities are evidently in need of statistical assistance.

Also, the committee might well consider the advisability of making a small grant to cover the cost of sending medicine by rail, post, etc., to distant panel patients in scattered areas.

After six years of insurance work, surely it is not asking too much that these points should receive attention, and thus put the really rural man on some kind of level as regards remuneration with the urban practitioner.—I am, etc.,

Rothbury, Northumberland, Oct. 13th. ARTHUR S. HEDLEY.

SIR,—The following description may be of interest. The nucleus of this practice is formed by two almost equally sized villages facing one another across a broad mud-bottomed creek. To reach the other (in whichever you live) you can:

A. *In summer:*
(1) Row across, between half tides, by boat and then walk.
(2) For a short time at low tide (except with slack tides) cross on foot by a stone "fosse" just higher than the mud. If the tide catches you, you then have to *walk* by route (3).
(3) Drive, cycle, or walk 1.75 miles round the head of the creek. This includes two single-figure gradients in *each* direction.

B. *In winter:*
(1) All boats have to be laid up on account of south-westerly gales.
(2) Tide dodging by the "fosse" is often dangerous.
(3) Two of the hills have often such dangerous surfaces in wet weather that only chains will enable motor wheels to grip.

Note the distance, which cuts out even the present meagre mileage allowance.

Our best road here is only classed as a secondary one, and the expenditure of energy, time, and money in doing any distance by any means in any direction here is more than twice that of any suburban area. This is freely admitted by every practitioner who visits us. I will merely hint at the difficulties of outlying farms along grassy rubble-surfaced tracks.

Surely under such conditions the mileage limit might be lowered after proper investigation by the county Insurance Committee. Though this practice is somewhat unique, similar conditions as to the roads are common throughout the West Country.—I am, etc.,

Newton Ferrers, Oct. 15th. W. F. BENSTED-SMITH.

THE BRITISH FEDERATION OF MEDICAL AND ALLIED SOCIETIES.

SIR,—The Executive of the Federation request the kind publication of the following communication from Sir Henry Morris, Bt., F.R.C.S., the original Chairman of the Medical Parliamentary Committee.—We are, etc.,

CHARLES BUTTAR,
Honorary Secretary.
N. HOWARD MUMMERY,
Organising Secretary.

The British Federation of Medical and Allied Societies,
5, Vere Street, Cavendish Square, W.1, Oct. 20th.

8, Cavendish Square, London, W.1,
October 16th, 1919.

Dear Sir,

I have read in the *Lancet* and BRITISH MEDICAL JOURNAL of Saturday last the letter signed by yourself and two other office-bearers of the British Federation of Medical and Allied Societies, and also that of Dr. C. O. Hawthorne.

Dr. Hawthorne accuses the members of the temporary committee elected at the general meeting of the profession held at the Steinway Hall on October 1st, 1918 (which committee soon adopted the title of Medical Parliamentary Committee) of having broken two pledges given at that general meeting. These so-called broken pledges he describes as follows:

I. That the committee, having been appointed to draw up a scheme with a view to secure an increased medical representation in Parliament on the assurance that no executive action would be taken until the scheme had been approved by "a further meeting of the profession," had not fulfilled its pledge to report to such a meeting. He enumerates several "gratuitous exercises" of the committee "without the sanction of the meeting which called the committee into existence"; which "exercises," he says, "cannot be accepted as a substitute for the particular engagement which the committee definitely undertook."

Now the chief thing for which the committee was elected was to find out which medical men were willing to stand for Parliament, and to assist them as to their choice of constituencies, and in finding speakers to help them in their candidatures. This the committee did, so far as was possible, in the very limited period between its formation and the date of the general election.

II. That the chairman of the original meeting "assured the meeting that the committee would not concern itself with the electoral affairs either of Scotland or of Ireland. . . . Yet at the general election the committee supported the claims of the candidates for the Scottish Universities constituency, and it co-opted a representative from a body which called itself the Scottish Universities Parliamentary Association."

Your conjoint letter gave a somewhat distorted explanatory reply to the first charge, and no reply whatever to the second.

It must be admitted that the temporary (or Medical Parliamentary) Committee did not call a further or second general meeting open to the whole profession such as that at Steinway Hall on October 1st, 1918. The meeting at the Central Hall, Westminster, was no "further" or "second" meeting of that description. It was a first "Conference of representative bodies," to which invitations were issued by the Medical Parliamentary Committee; and to this "Conference," instead of to an open meeting of the profession, the past activities and proposed scheme of future activities of the committee were reported.

It was fully understood at the original meeting, as stated above, that the committee would proceed at once to assist medical candidates for Parliament at the approaching and at future elections. It broke no pledge, therefore, in at once setting about the purpose for which it was called into existence.

But on considering the unfavourable experience of two other general meetings, held at the instigation of certain groups of the profession, which followed on the meeting of October 1st, 1918, there was thought to be ample justification for the Medical Parliamentary Committee calling "a further meeting of the profession"—as Dr. Hawthorne claims it was pledged to do—but in the form of a meeting, either of those who had taken the trouble to vote for the committee at the October 1st meeting, or of representatives of the various organized medical societies and institutions, rather than summon, in the face of what had transpired at the two meetings just referred to, another meeting open to the whole profession.

This decision was arrived at, you will remember, after the whole question had been fully considered and discussed by the Medical Parliamentary Committee, and it would have been wiser, in my opinion, to have freely admitted in your letter the deliberate departure from the intention expressed at the October 1st meeting and to have defended and justified the course actually adopted by the committee.

Dr. C. O. Hawthorne is mistaken in his interpretation of the significance of the chairman's reply in regard to Scotland and Ireland. What the chairman said was that there was no intention, at any rate at the outset, of including either Scotland or Ireland in our English medical parliamentary movement, because both these countries were prone to insist on having and organizing their own independent societies. In no other way did the chairman commit himself as to Scotland and Ireland.

One of the candidates for the Scottish Universities constituency, to whom Dr. Hawthorne alludes—a resident in London—was elected on to the temporary committee at the general meeting on October 1st, 1918, as a representative of the Royal Institute of Public Health. Naturally he was included in the list, drawn up by the committee, of medical men suitable for a seat in Parliament. The other candidates for the Scottish Universities constituency, to whom Dr. Hawthorne refers in his very reproachful and denunciatory criticism of the committee, was also a resident in London, and was also, of course, included in the same list.

No other action whatever was taken by the Medical Parliamentary Committee in "the electoral affairs either of Scotland or Ireland"; neither canvassing, nor platform oratory was rendered by the committee in any university or other constituency in either Scotland or Ireland. What, then, becomes of the second charge of "broken pledges"?

Lastly, the gentleman described by Dr. Hawthorne as having been "co-opted a representative from a body calling itself the Scottish Universities Parliamentary Association" is also a resident in England, and he represented members of the association resident in England.

As an advocate of the formation of a medical federation for parliamentary purposes solely, and chiefly in the interests of the general community, I regret that Dr. C. O. Hawthorne was not thoroughly answered by you and your co-signatories, and that his charges of "breaches of promise" were not fully refuted. But, if I may venture to say so without presumption, I think that in future the best and only answer to give to carping and jealous critics of the Medical Federation as compared with other associations is the statement contained in the fourth and part of the fifth clauses of the "summary" of my article "On a plea for medical unanimity and public spirit," published in the *Lancet* of February 1st, 1919.

I remain,
Yours very truly,
(Signed) HENRY MORRIS.

P.S.—I am writing as ex-chairman of the Medical Parliamentary Committee and as chairman of the General Meeting of October 1st, 1918, at which that committee was elected. You are at liberty to make what use you like of this letter.

The Honorary Secretary of the British Federation of Medical and Allied Societies.

GENERAL MEDICAL COUNCIL ELECTIONS.

SIR,—At the request of the medical profession in Blackpool I have consented to be nominated as a Direct Representative for England on the General Medical Council, and my nomination form has been sent to the Registrar. It has received the support of thirty doctors in Blackpool; no refusals; more could have been obtained. It is significant, and I believe it expresses the views of many other Divisions in regard to the action of the Association. The chairman, secretary, and representative of the Blackpool Division were the first to subscribe their names and to canvass. My candidature is my earnest protest, which is supported by my nominators, at the action of the British Medical Association in again nominating all four of the representatives for England, thus practically excluding the free election by the medical profession of representatives who are not members of the Association. The Medical Act of 1886 was intended to give equal opportunity for all medical practitioners to nominate and elect any one eligible. Since the British Medical Association has adopted the policy of nominating all four, no one has been, nor is likely to be, the free elected representative of the medical profession in England. Acting as a caucus, it uses and abuses its power, which is not honourable and is unworthy of the traditions of the recent past of the British Medical Association. Their candidates have safe nominations—no great demand on their purses, time, or personal canvass. The JOURNAL and a host of officials in all the Branches and Divisions are at their service free of expense. Before this policy was adopted the elections were full of interest and keen rivalry, but at the last election in 1911 the lowest successful candidate only received 7,113 votes. This was less than one-third of the electors, proving that their action is causing widespread apathy, which will increase. This will be a pity.—I am, etc.,

JOHN BROWN, M.D.,
Late M.O.H. Bacup.

Blackpool, Oct. 20th.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on October 16th the following medical degrees were conferred:

D.M.—D. Davidson. B.M.—L. G. Brown.

UNIVERSITY OF CAMBRIDGE.

THE Raymond Horton-Smith prize for the best M.D. thesis during the past year has been awarded to Edgar Douglas Adrian, M.D., M.R.C.P., Fellow of Trinity College.

At a congregation held on October 17th the following medical degrees were conferred:

M.D.—G. C. Johnstone.
M.B. AND CH.B.—A. B. Pavey-Smith; *R. W. B. Gibson.
M.B.—*J. W. Pidgeon.

* Admitted by proxy.

UNIVERSITY OF LONDON.

WE are asked to call attention to the fact that the last date for the receipt of applications for the William Julius Mickle Fellowship has been extended to November 15th. The Fellowship, which is of the value of £200, is awarded annually by the Senate to the man or woman who, being resident in London and a graduate of the University, has in the opinion of the Senate done most to advance medical art or science within the preceding five years, and has therein shown conspicuous merit.

Further details can be obtained on application to the Academic Registrar, University of London, South Kensington, S.W.7.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

The two Goldsmid entrance exhibitions, offered annually for competition in September, have been awarded to Mr. J. H. Porter and Miss E. M. Turner.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on October 9th, when Sir George Makins, President, was in the chair.

The late Mr. Thomas Pickering Pick.—A vote of condolence was passed to the relatives of Mr. Pick, who died at the age of 78 on September 6th, 1919. Mr. Pick was a past Vice-President and past Member of the Council and of the Court of Examiners.

Donations.—A vote of thanks was passed to Mr. Scoresby Routledge for his gift to the College of a collection of skulls and skeletons, representing about fifty individuals, from Easter Island.

Meeting of Fellows and Members.—The annual meeting will be held on Thursday, November 27th, at 3 p.m., when the annual report of the Council will be presented to the meeting. Fellows and Members can obtain copies of the report on application to the secretary. A printed copy of the agenda will be issued on or after November 24th to any Fellow or Member who may apply to the secretary of the College.

The First Thomas Vicary Lecture.—This will be delivered by Sir John Tweedy on Wednesday, December 3rd, at 5 p.m., when the Lord Mayor-elect (Sir Edward Cooper, Master of the Barbers' Company) will be present. The title of the lecture is "The Surgical Tradition."

The Bradshaw Lecture.—The Bradshaw Lecture will be delivered by Sir Charles A. Ballance on Thursday, December 11th, at 5 p.m., on "The Surgery of the Heart."

Annual Report of Council.

The annual report of the Council relates briefly the activities during the year ended July 31st, 1919, as recorded from time to time in our columns. It may be noted that the President and Mr. Raymond Johnson have become members, with representatives of the Royal College of Physicians and the Ministry of Pensions, of a committee to reconsider the schedule of diseases and injuries at present existing in the Pensions Ministry Warrant, and the whole question of the assessment of pensions and the determination as to when a pension should be made permanent. The Minister of Pensions also asked the College, in conjunction with the Royal College of Physicians, to institute some form of inquiry into complaints occasionally made regarding the professional skill, attention afforded, and treatment of disabled soldiers, by medical referees and other employed medical officers of the Ministry, with a view to advising whether the medical practitioner in question is or is not a fit person to continue to hold his appointment. In consequence a small board of two physicians and two surgeons has been set up, the chairman to be a physician when a medical case is in question, and a surgeon when a surgical. Mr. J. Herbert Parsons and Mr. Stephen Mayou have been nominated as representatives of the College to assist the Commissioner of Police of the metropolis, in consultation with his representative, and a representative selected on behalf of the drivers, in drawing up two standards of ocular efficiency for drivers of public motor vehicles, a high standard to be applied to all new entrants and a lower standard to men who have been continuously licensed for three or more years.

Appended to the report is a Roll of Honour containing the names of Fellows, Members, and Licentiates in Dental Surgery who were killed in action, or lost their lives from wounds or disease contracted while on active service abroad with H.M. Forces. The list contains the names of 22 Fellows, of whom one was serving in the combatant forces; of 308 Members, of whom 14 were serving in combatant forces, and of 11 Licentiates in Dental Surgery, of whom all but two were serving in combatant forces. The names of two members of the College subordinate staff are added to the list.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting held on October 15th the following appointments were made:—President: Dr. George Mackay. Vice-President: Dr. R. McKenzie Johnston. Secretary and Treasurer: Mr. Alexander Miles.

The following have been admitted Fellows:

D. Aiken (Captain A.A.M.C.), G. H. Alabaster (Captain R.A.M.C.), R. M. Allan (Captain A.A.M.C.), John Anderson, R. C. L. Batchelor (Captain R.A.M.C.), W. G. Bendle, H. A. Bodkin, T. Chalmers, L. D. Cohen, J. R. Dick, L. D. Englerth, W. D. Galloway, H. V. A. Gatchell (Major R.A.M.C.T.F.), John Guthrie, H. H. Hepburn (temporary Captain R.A.M.C.), Pow-Kan Liang, K. S. Parker (Major A.A.M.C.), W. J. Porteous (Captain N.Z.M.C.), J. J. Power, R. V. De A. Redwood, A. Stewart (temporary Lieut.-Colonel R.A.M.C.), J. A. West, E. G. Williamson (Captain M.C.U.S. Army), D. Wood (Captain A.A.M.C.).

Obituary.

MAJOR SAMUEL WILSON MCLELLAN, M.C., late R.A.M.C., died at Liverpool on October 16th of septic poisoning, following a prick on the finger from a blackberry thorn, which he received recently while on his honeymoon. He was educated at Liverpool University, where he graduated M.B. and Ch.B. in 1906 and M.D. in 1908; he took the D.P.H. in 1911 and the F.R.C.S.Edin. in 1909. After acting as house-physician and medical registrar of Liverpool Royal Infirmary and as obstetrical assistant, he went into practice at Birkenhead and held the appointments of honorary assistant physician to the Liverpool Hospital for Consumption and Diseases of the Chest and of pathologist to the Royal Southern Hospital at Liverpool and to the Liverpool Children's Hospital. He took a temporary commission as lieutenant in the R.A.M.C. on August 13th, 1914, a few days after the war began; he was promoted to captain on August 13th, 1915, on completion of a year's service, and to acting major on October 8th, 1918, being demobilized this year. He received the Military Cross on September 22nd, 1916, the *Gazette* stating that "He brought up stretcher-bearers during the attack, and, though wounded and rendered unconscious by a shell, he resumed work immediately on recovery, and carried on under very heavy shell fire. He worked without stopping for thirty hours."

Medical News.

A GENERAL meeting of the Cambridge Graduates' Medical Club will be held at the house of the Royal Society of Medicine, 1, Wimpole Street, W., on Monday, November 3rd, at 5 p.m.

THE first meeting of the new session of the Röntgen Society will be held at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, November 4th, at 8.15 p.m.

THE first meeting of the Lancashire and Westmorland Tuberculosis Society will be held on Thursday, October 30th, at 3 p.m., at the Houldsworth Hall, Deansgate, Manchester, when Dr. G. Lissant Cox, Central Tuberculosis Officer, Lancashire County Council, will deliver his presidential address. The attendance of medical men interested in tuberculosis is invited.

THE National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, W.C., will celebrate Founder's Day on Monday afternoon, November 3rd. There will be a service in the chapel at 3 o'clock, when the Vicar of Kew will give an address. Tea will be served in the board room and hall, and the wards and other features of the hospital will be open for inspection from 3 to 6.

AT the next meeting of the Surgical Section of the Royal Society of Medicine, on Wednesday, November 5th, there will be a discussion on secondary deposits in bone mistaken for primary tumours. Members willing to show specimens are asked to communicate with Mr. Herbert Paterson.

THE opening of the eighty-fifth winter session of the Middlesex Hospital Medical School took place on the afternoon of October 15th, when Sir Robert Hill, Medical Director-General of the Navy, distributed the prizes and Sir John Bland-Sutton gave an illustrated address on the third eyelid. The annual dinner was held that evening at the Holborn Restaurant, with the Earl of Athlone in the chair. In proposing the loyal toasts, the chairman announced that the Prince of Wales would preside over a dinner to be held in connexion with the hospital on November 20th. Sir John Bland-Sutton proposed the toast of "The Hospital and Medical School." It was six years, he said, since they had held such a function, and during that time the country had passed through the biggest crisis that it had had to face since the battle of Hastings, which finished on October 14th, 1066. He welcomed those who had returned from military service, and spoke of the admirable way in which the weekly board, with scarcely any honorary staff and with diminished exchequer, had managed to run the hospital, so that good service was rendered to civilians, soldiers, and refugees. The chairman, in acknowledging the toast, said that owing to the need for repairs and renovation it had been necessary to close the hospital for several months. It was, however, opened on October 1st, and strenuous efforts were being made to ensure the success of the special appeal to enable them to meet the heavy expenditure incurred. It was proposed to enlarge and modernize the out-patient department. Mr. A. E. Webb-Johnson, C.B.E., D.S.O., and Surgeon Rear Admiral Sir Robert Hill also responded to the toast. Lieut.-General Sir Arthur Sloggett, in replying to the toast of "The Guests," proposed by Dr. Essex Wynter, congratulated the members of the hospital on the work they had done and the high reputation they had won during the war. The medical service was the greatest success of the war, and its prestige had greatly increased during the war. He remembered the time when the army doctor was not much thought of, but that was entirely changed now, and he hoped the school would send the best of its young men into the service. Dr. W. Pasteur proposed the toast of "The Chairman," after whose acknowledgement the proceedings terminated.

DR. WILLIAM MCDOUGALL, F.R.S., M.Sc., reader in mental philosophy at Oxford, has been elected professor of psychology at Harvard in succession to the late Dr. Hugo Münsterberg.

A HOSPITAL is to be established in Paris in commemoration of men of the United States army who fell in France during the war. It will be supported by contributions from Americans, and its object is to supply aid to indigent French and Allied patients and to train nurses.

THE fifth of the series of pictures illustrating the history of Reading Abbey, presented to the Reading Art Gallery by Dr. Jamieson B. Hurry, was unveiled last week. It represents the visit of Heraclius, Patriarch of Jerusalem, to Henry II at Reading Abbey in 1185. In acknowledging a vote of thanks, Dr. Hurry said that he hoped the pictures would arouse a sense of local patriotism and help in the education of the rising generation.

A NEW schedule of articles to be brought within the operation of the Profiteering Act issued on October 18th includes all drugs except quinine sulphate (which is controlled), medical preparations, including tooth powders, talcum powders, and Fuller's earth; medical and surgical appliances and dressings, including thermometers, and weights and measures, weighing instruments, and measuring instruments. Complaints of profiteering in respect of any of these articles may be made at once.

ON October 4th the French Society for the Study of the History of Medicine held its first meeting after an interruption of five years. The president of the society, Professor Jeanselme, gave a photographic demonstration of medical manuscripts in the Bibliothèque Nationale. Afterwards M. Roger, dean of the Faculty, announced that it had been decided to form a museum of the history of medicine, and invited gifts from the members. Publication of the *Bulletin* of the society will be resumed in January next. The secretary of the society is M. Fosseyeux, 3, Avenue Victoria, who will receive the subscriptions of members (12 francs a year). Members are entitled to receive the *Bulletin* and all the publications of the society.

THE late Mr. Francis Fletcher of Sutton Coldfield, manufacturing chemist, directed by his will that the ultimate remainder of his estate of £39,000 shall be given to the University of Birmingham to provide scholarships for boys and girls desirous of entering the medical profession. Certain conditions are attached to the bequest, one being that the scholars must be children of industrial class parents earning a daily or weekly wage not above 50s. a week, to be selected from those attending elementary schools; or boys from grammar schools and girls from municipal high schools who have won their way from the lower grade schools, but these must be sons or daughters of bona fide working men and women. The testator's purpose is to afford to such children opportunities of a career in the medical profession, "as in my opinion there are potentialities of the born doctor being found amongst such children, in which case it would be in the interest of medical and surgical science, also to the benefit of humanity."

THE Village Centres Council and its work have been mentioned more than once in this journal. The Enham Centre, near Andover, for the curative treatment and training of disabled ex-service men, received its first patients in May this year, and since then the number of residents has steadily increased. The opening ceremony will take place on Wednesday, October 29th, at 2.30 p.m., when the Right Hon. Sir Laming Worthington Evans, Bt., M.P., Minister of Pensions, will declare the Centre open. It is hoped that visitors will travel to Enham in time to see round the Centre, its gardens, medical block, and workshops, where nearly a hundred disabled men are now undergoing treatment and training. The chairman of the executive committee is Lord Henry Cavendish Bentinck, M.P., and the vice-presidents of the council include Sir Rickman Godlee, Sir John Goodwin, Sir Robert Jones, Sir Alfred Keogh, Sir George Makins, Sir Norman Moore, and Sir Frederick Treves.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediocra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

DISINFECTION OF BOOKS.

"J. M. R."—The books to be disinfected are hung on wires in such a manner that the surface of the leaves are exposed. Where the bindings are not likely to be affected dry heat can be used. Where dry heat is contraindicated the books are hung in a cupboard or similar compartment into which there is transmitted 2 per cent. formic aldehyde vapour. The books are subjected to this for four or five hours.

PAIN IN ARTHRITIS OF THE SPINE.

DR. FLORENCE STONEY (London) writes in reply to "Spes": I had a patient with severe arthritis of the lumbar spine, in whom the pain had been rendered much worse after wrenching by a bonesetter. He lost all pain after a course of sodium salicylate ionization followed by massage; the negative pole was placed over the spine, the large positive pole elsewhere. The pain of arthritis in other joints similarly yields to salicylic ionization.

LETTERS, NOTES, ETC.

MEDICAL POSTS IN MALAYA.

A CORRESPONDENT writes from the Federated Malay States: In the interests of our profession may I be allowed space to warn men against accepting posts in the Federated Malay States unless they fully realize local conditions?

1. Posts are usually offered with a salary stated in pounds sterling.
2. The salaries are actually paid in Straits dollars.
3. The exchange value of a dollar is 2s. 4d., but its actual purchasing value is, roughly, 1s.
4. Thus a salary quoted at £600 a year is worth only about £300.
5. All expenses have gone up as much as, if not more than, they have at home.

If these five points be kept in mind it should save men from buying their own experience too dearly. Speaking from experience, not only my own, may I strongly advise men to accept as a *minimum* the following terms in order to be able to live, instead of vegetating—(1) 600 dollars a month, with annual increments of 50 dollars; (2) free furnished bungalow; (3) free transport; (4) free passage both ways; (5) an agreement terminable by six months' notice. On these terms a doctor has the chance of putting by a little money each year and living in a manner befitting a professional man.

R.A.M.C. AND STATE SERVICE.

"G. P." writes: The difficulty of getting men to join the R.A.M.C.—regular or temporary—to which you call attention gives rise to reflection. Week after week advertisements appear in your columns for assistant school medical officers at salaries of £400, rising to £500. From the fact that these salaries continue to be offered one concludes that they are sufficient to attract some kind of men to the work. Yet the prospects of promotion or increased pay (above the limits offered) and of pension are practically nil. Moreover, before the war the British Medical Association resolved that £250 should be the minimum pay for assistant school medical officers, so that, in present circumstances, £500 should be the minimum and not the maximum. During the war we were told that after serving in the R.A.M.C. men would wish for State service. The terms offered by the R.A.M.C., defective though they are, are immensely better than those offered to assistant school medical officers. Moreover, while the R.A.M.C. officer travels first class, most assistant school medical officers are made to travel third class. Private practitioners work with a car, as do the manufacturing chemists' travellers who come to visit them, yet only last week one county authority advertising for assistant school medical officers specified motor-cycle and side-car for travelling. Thus the local authority has so little concern for the health of its assistant school medical officers that they are quite willing to let them be wet to the skin and frozen to the bone, travelling by motor-cycle over long distances in all weathers. In short, while the conditions of "labour" are everywhere improving, those of assistant school medical officers show no sign of it. If this is "State service," any man worth his salt will prefer to become a general practitioner.

SCHOOLBOYS' WEIGHT.

W. A. writes: My son went to a public school at the age of 12½ years. On his return after the first term he looked so thin and the loss of weight was so apparent that I kept a record of his weight at the beginning and end of each term from July, 1911, to April, 1914, when he left school. In five terms there was a loss of weight averaging 1 lb. 6 oz. (highest 3 lb., lowest 8 oz.). One term he gained 1 lb. 4 oz., and in the last two terms he gained 4lb. and 6lb. I attribute the loss of weight during the first two years to the plainness and unappetizing nature of the food supplied. No jam, cake, or fruit was provided, and boys, unless very hungry, will not eat much bread-and-butter as served at school. The breakfast consisted of porridge three days a week, and nothing but bread-and-butter on other days. I consider that the interval between breakfast and dinner (five hours usually) is too long. If breakfast is at 8 dinner should be at 12, or else a lunch at 11. I think that at all schools jam or plain cake should be provided at tea, and cheese or soup for supper, also that fruit should form part of the diet when in season. I regard the tuck-box as an abomination, and think it most unfair that the parents should have to supplement the diet after paying the high boarding fees charged at most schools. I do not agree with the theory that loss of weight is caused by the sports, which, by promoting appetite, should have the opposite tendency. A healthy boy should gain steadily in weight all the year round, and if he loses weight at school there must be something wrong with the dietary.

ANAESTHESIA IN TONSIL AND ADENOID OPERATIONS.

DR. C. JEPHCOTT (Chester) writes: I was much interested in the correspondence in the JOURNAL in June and July on the adminstration of anaesthetics for the removal of tonsils and adenoids. Personally I have for some time used the two bottle method even in the days of light anaesthesia, always finishing with ether. Dr. Schofield, in the JOURNAL of July 12th, advocated gas, and this I have used with older children; but after reading Mr. W. H. Bowen's article in the JOURNAL of October 4th I should like to hear the experience of others who may be using ethyl chloride, for this would undoubtedly be a great time-saver in hospital work.

CHRONIC RENAL DISEASE.

CAPTAIN CHAS. J. HILL AITKEN, R.A.M.C., writes: In Sir James Galloway's article on chronic renal disease it is stated "the patient was therefore on a low diet, and told us he was hungry, and would willingly take more food. . . . The remarkable feature of this change for the better—following the fuller diet—was the rapidity with which the favourable conditions made their appearance."

The following case occurs to my mind. Seventeen years ago an old lady with cardiac disease and dropsy was left in my charge as locumtenent. She was very ill, and all she would say to me was, "I want beer! I want beer!" Her anxious relatives said to me, "Beer will kill mother; she must not have it." At my next visit the patient was much worse, and still asking for beer. I told the family their mother was dying, and that they might as well gratify her last dying wish. She got beer, and was up and out in less than ten days. I attributed this marvellous recovery entirely to freedom from the grinding unrest of this lady, who day and night worried because she was refused beer.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 44, 45, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 41, 42, and 43.

THE Home Secretary announces a vacancy of a medical referee under the Workmen's Compensation Act, 1906, for the Bury and Rochdale county courts, in Circuit No. 5. Applications to the Private Secretary, Home Office, by November 8th.

THE following appointments of certifying factory surgeons are vacant: Ashford (Kent), Ballylesson (Down), Cleator (Cumberland), Hipperholme (York., West Riding).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.